

**BULLETIN  
OF THE RESEARCH COUNCIL  
OF ISRAEL**

**Section B  
ZOOLOGY**


*Bull. Res. Counc. of Israel, B. Zoology*

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99 The Sphecidae (Hymen.) of Eretz Israel.

II. Subfam.: Nyssoninae (Tribes: Gorytini, Nyssonini, Alyssonini)  
and Philanthinae

*J. de Beaumont and H. Bytinski-Salz*



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## THE SPHECIDAE (HYMEN.) OF ERETZ ISRAEL.

### II. SUBFAM.: NYSSONINAE (TRIBES: GORYTINI, NYSSONINI, ALYSSONINI) AND PHILANTHINAE

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#### ABSTRACT

This second part of the "Sphecidae of Eretz Israel" treats with the following genera occurring in this country: *Ammotomus* (4 species), *Argogorytes* (1 species), *Gorytes* (14 species), *Sphecius* (1 species), *Kohlia* (1 species), *Nysson* (5 species), *Alysson* (2 species), *Entomosericus* (1 species), *Cerceris* (42 species), *Nectanebus* (1 species), *Pseudoscolia* (4 species), *Philanthus* (10 species).

The following species and subspecies are described as new: *Gorytes versicolor* Beum.; *G. aureus* Beum.; *Cerceris galathea* Beum.; *C. spinipleuris* Beum.; *C. pleurispina* Beum.; *C. clytia* Beum.; *C. pulchella* ssp. *scabra* Beum.; *C. straminea* ssp. *hebraea* Beum.; *C. armata* Beum.; *C. berlandi* ssp. *palaestina* Beum.; *C. fraterna* Beum.; *Philanthus coronatus* ssp. *orientalis* By.-S.; *P. variegatus* ssp. *nabataeus* By.-S.; *P. ammochrysus* ssp. *psammophilus* By.-S.; *P. schulthessi* ssp. *nigrinus* By.-S.; *P. theodori* By.-S.

The following sexes are described for the first time: *Gorytes hebraeus* Beum. ♂, *G. houskai* Balth. ♂, *Cerceris cheskesiana* Giner ♀, *Pseudoscolia angelae* Kohl ♀, *P. sinaitica* Mochi ♂.

#### SUBFAMILY: NYSSONINAE

##### TRIBE: GORYTINI

##### *Ammotomus*

Except for *A. rogenhoferi* Hdl., which has very distinctive characteristics, differentiation between species of this genus is very difficult, since there are no salient morphological peculiarities. New studies will be necessary and the names used here should be considered as provisional.

\* *Ammotomus mavromoustakisi* Balth.\*

♂ ♀: Jericho 23.V, Ras el Nakura 12.IX.

The differences noted by Balthasar (1953) between this species (based on a single ♂ from Cyprus) and *A. coarctatus* Spin. are not absolutely constant. The proportions

\* As in the first part of this paper, published in the *Bulletin of the Research Council of Israel*, 5B, 32, 1955, an asterisk preceding a name indicates a species not previously mentioned.

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of the frontal shield and of the clypeus vary considerably both in the individuals of Cyprus and in various populations of *coarctatus*; the extent of the yellow markings varies also. *Mavromoustakisi* could be considered as a subspecies of *coarctatus*. The 2 Israel specimens examined are similar to those of Cyprus; the individuals studied from Syria, however, are closer to the *coarctatus* of Western Europe.

Distribution: Cyprus, Eretz Israel. FE: Eastmed.

\* *Ammatomus mesostenus* Hdl.

♂♂, ♀♀: Ras el Nakura 12.IX. Ein Harod 1.IX, Nir Am 26.VIII, Ein Gedi 15.V.

To this species, described from Egypt, are attributed individuals which are differentiated from *coarctatus* and *mavromoustakisi* by the smaller size, the distinctly more widely-spaced punctuation, the longer 1st abdominal segment, and the very indistinct emargination at the tip of the 8th sternite. In the ♂, the antennae are generally light on the underside; the scutellum, the postscutellum and bands, sometimes slightly interrupted on the sides of the mesonotum, are yellow; the black colour is more or less replaced by a ferruginous colour on the coxae, the trochanters, and the hind femora, sometimes also on the 1st abdominal segment. In the ♀, the antennae are for the most part dark on the underside; there are only small yellow spots at the angles of the mesonotum and the spot of the scutellum may be reduced; the coxae, the trochanters and the hind femora are reddish throughout. In the two sexes, the last segment of the hind tarsi is mostly black, as in *coarctatus*, but segments 1 to 4 are hardly darkened at the tip.

Distribution: Egypt, Sahara, Israel. FE: SS.

\* *Ammatomus rufonodis* Rad.

♂: Jericho XII.

In the single ♂ of Israel (as in 1 ♂ from Syria, 1 ♀ of Turkey, 3 ♂♂ 1 ♀ from the Caucasus) which we attribute to this species, the punctuation of the thorax is as in *mesostenus*, but the punctuation of the abdomen, especially in the hind part of the sternites, is heavier and denser. The 1st abdominal segment seems longer, but this character is difficult to estimate with precision. The yellow markings of the thorax are the same; the whole basal part of the 1st abdominal segment is ferruginous; the hind femora are tinged with a reddish colour; segments 1-4 of the hind tarsi are distinctly spotted with black at the tip; 5th is black.

Distribution: W. and Central Asia. FE: IT.

*Ammatomus rogenhoferi* Hdl.

♂♂, ♀♀: Jericho 26.IV, Jerusalem 7.V-2.VI, Ramat Gan 9.V, Binyamina 29.V, Tiberias 21.III, Kfar Giladi 16.V, Daphne Oaks 13.V-21.VI.

Distribution: S.E. Europe, W. and Central Asia. FE: Eastmed/IT.

*Argogorytes*

- \* *Argogorytes fargei* Shuck. (*Gorytes campestris* auct.)

♂, ♀♀: Jerusalem 1.V, Elon 18.IV, Hanita 8.IV.

The yellow markings are more extensive in these individuals than in those from Europe. In the ♀, there are very broad golden yellow bands, on tergites 1-5; the spot at the anterior part of the mesopleurae and the one on the scutellum are well developed; fore and middle femora with a distinctly limited yellow spot at the end of the underside; hind femora reddish at the tip; tibiae and tarsi yellow, slightly spotted with a reddish colour.

Distribution: Europe, Israel. FE: ES.

*Gorytes*

In two preceding works, one on the *Hoplisoides* and *Psammaecius* (1952) and the other on *Gorytes s. s.* (1953), indications were given on some of the specimens mentioned here.

- \* *Gorytes (s. s.) nigrifacies* Mocs.

♂♂, ♀♀: Nebi Musa-Kallia road 18.IV, Jerusalem (Mus. Vienna), Tiberias 6-12.IV, Deganya (leg. Palmoni).

Distribution: S. Europe, Eretz Israel. FE: Med.

- \* *Gorytes (s. s.) foveolatus* Hdl.

♂♂, ♀♀: Tiberias 8.V, Deganya (leg. Palmoni), Tel el Kadi (Dan) 18.V.

Distribution: S. Europe, N. W. Africa, Israel. FE: Med.

- \* *Gorytes (s. s.) pleuripunctatus* Costa

Alonim near Haifa 17.V, 1 ♀ (Balthasar 1954).

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

- \* *Gorytes (s. s.) hebraeus* Beaum.

♂, ♀♀: Jericho 23.III, Jerusalem 1.V.

This species is based on 2 ♀♀; since then, a ♂ was examined, and its description is as follows:

♂, *New description*:

Sculpture of the face and thorax as in the ♀, but the micropunctuation is somewhat less dense; propodeum with the dorsal face sculptured as in the ♀; on the sides, behind the stigmatic furrow, the integument is, as in the ♀, punctate, but the punctuation is here very wide-spaced, on a very shining surface; the abdomen is somewhat more distinctly punctate than in the ♀, nearly as in *5-fasciatus* Panz. The underside of the antennal segments is somewhat more swollen than in *5-fasciatus*, for instance, nearly as much as in *schmiedeknechti* Hdl. or *pleuripunctatus* Costa; the penultimate



segments are 1.5 times longer than broad. The pubescence of the body is very short; there are no long hairs on the sternites.

The yellow markings include: a large spot on the mandibles, the labrum, the clypeus (its anterior margin is testaceous), narrow orbital stripes, reaching nearly to the clypeus at their lower end, the collare, a small spot on the episternum, a small spot on the scutellum, apical bands on tergites 1-5, the 2nd and 3rd strongly enlarged on the sides, the 5th distinctly interrupted in the middle. Underside of the scape and a small spot on the underside of the 1st and 2nd segment of the funiculus yellow; the remaining part of the funiculus black. Coxae and trochanters black; fore femora black with a small apical yellow spot; middle femora black with a small apical reddish spot; hind femora reddish with the basal third black; fore and middle tibiae yellow, spotted with black in the rear; fore and middle tarsi yellow; hind tibiae yellow below and reddish above; hind tarsi reddish.

*Allotype*: ♂ Jerusalem 1.V, leg. By.-S.

Generally, in this subgenus, the ♂ will be more difficult to identify than the ♀. With material for comparison, it will be easily recognised by the sculpture of the propodeum. In trying to identify it with the table that I published, one might incline to consider it as *schmiedeknechti*; but this latter shows a particular sculpture of the thorax, a dorsal area of the propodeum irregularly striate, and a longer pubescence.

Distribution: Israel, Turkey. FE: Eastmed.

\* *Gorytes (Hoplisoides) punctatus* Kirschb.

♂ ♀: El Hama 18.IV, Tiberias 9.V (leg. Verhoeff).

Distribution: S. and Central Europe, N. W. Africa, W. Asia. FE: Med.

\* *Gorytes (Hoplisoides) ferrugineus* Spin.

♂♂, ♀: Ein Gedi 15.V, Tel Aviv X.

Distribution: Egypt, Sahara, Israel. FE: SS.

\* *Gorytes (Psammaecius) punctulatus* Lind.

3 ♂♂, 1 ♀: Khan Hadrur 23.V, Tiberias 9.V (leg. Verhoeff), Beersheba 15.V.

A ♂ from Tiberias was found with a relatively wide-spaced punctuation and well-developed designs, of a golden yellow. M. Verhoeff submitted another ♂ of the same origin; it is of normal size and more strongly punctate than the preceding one; its yellow markings are even more developed; it has stripes on the lateral margins of the mesonotum; its legs also are remarkably light; the fore coxae are spotted with yellow; the middle and hind coxae and trochanters are almost entirely yellow; all femora are yellow, somewhat tinged with a reddish colour and with a small black spot on the upper side; tibiae and tarsi yellow.

The ♂ from Beersheba and the ♀ of Khan Hadrur, on the contrary, have light designs, of a whitish yellow in the ♀, of a stronger yellow in the ♂, very similar to those of the South European specimens.

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.



\* *Gorytes (Psammaecius) eremorum* Beaum.

♂♂, ♀♀: Beersheba 24.V, Gvulot 18.IV, Revivim 16.V, Halutza 3.VI.

Distribution: N. Africa, Israel. FE: SS.

\* *Gorytes (Psammaecius) austeni* Turn.

♂♂: Bat Yam 10.V, Holon 3.V.

Distribution: Israel. FE: Endemic.

\* *Gorytes (Psammaecius) versicolor* Beaum. spec. nov.

14 km south of Beersheba 6.VI, 14 ♂♂ 1 ♀, Revivim 15.VI, 1 ♂ 2 ♀♀, Halutza 3.VI, 3 ♂♂.

This species is very similar in morphology to *punctulatus* Lind. and *austeni* Turn.; it is near the latter by virtue of the ferruginous colour, generally well developed, on the abdomen.

♀. 10–12 mm. The proportions of the various parts of the head are very similar to those of *punctulatus*; the clypeus is proportionally narrower; its shining apical part is more flattened; at the limit between the basal and apical zones, there is, as in *punctulatus*, a small piliferous pit, but it is here much less visible; the 2nd segment of the funiculus is hardly twice as long as broad, while, in *punctulatus*, it is 2.5 times longer than broad. The punctation of various parts of the body vary somewhat from one individual to another; it is very similar to that of *punctulatus*; the metapleurae are very distinctly and longitudinally striate; the striation of the dorsal area of the propodeum is more or less strong, sometimes with some points between the striae in the hind part.

The 3 ♀♀ studied are of a very similar colouration. Head black with the following parts yellow: the mandibles, the labrum, the clypeus, a spot on the frontal shield in one specimen, orbital stripes similar to those of *punctulatus*. Thorax black, with the following parts more or less yellowish ferruginous: the collar, the humeral tubercles, the lateral margins of the mesonotum, the scutellum, large spots on the mesopleurae and on the propodeum. Abdomen reddish, except the base of the 4th tergite, which is in part blackish in one of the specimens; all the tergites with broad terminal bands, of a yellowish ferruginous colour, indistinctly limited in front. Scape yellow; the 1st segment of the funiculus and the underside of the last ones reddish. Legs reddish, more yellowish on the fore and middle tibiae and tarsi. Wings hyaline, with a very distinct brown spot, occupying the radial and a part of the cubital cells; stigma yellow.

♂. 9–11 mm. As in the ♀, the clypeus is proportionally somewhat narrower than in *punctulatus*, but not as narrow as in *austeni*; its apical part is nearly as flattened as in the latter species. The proportions of the frontal shield are those of *punctulatus*, that is to say, it is broader than it is high. The 2nd segment of the funiculus is somewhat shorter than in *punctulatus*, but somewhat longer than in *austeni*; the last segments are strongly emarginate, as in the latter species. The punctation of the various parts



of the body is similar to that of *punctulatus*, but individually variable. Dorsal area of the propodeum striate, more or less punctate between the striae.

The colouration, in the 18 ♂♂ examined, is extremely variable; this is due, on the one hand, to the variable extension and colour of the light designs of the head and thorax and, on the other, to the fact that the fundamental colour of the abdomen varies from black to ferruginous. In 15 individuals the head is coloured as in the ♀, the frontal shield being yellow or black; in one specimen, the mandibles are darkened and the clypeus shows a reddish spot in the middle; in another specimen, the mandibles show only a small reddish spot, the clypeus is partly black, with yellow and reddish spots, the orbital stripes are partly obliterated; in the last ♂, the clypeus is black, with an apical reddish spot, and the orbital stripes have disappeared. The thorax may show the same spots as in the ♀, reddish or more or less yellow, but the light colour may also be reduced and, in the darkest specimens, there are only small spots on the collar, the humeral tubercles and the scutellum. In one of the individuals, the dorsal face of the abdomen is black, with yellow bands, bordered with reddish in front, on the hind part of all the tergites; the sternites are black and reddish; in all the other specimens, the fundamental colour of the abdomen is entirely or mostly ferruginous on the first 3 segments and often also on a part of the following segments; all the tergites with yellow bands, of which the anterior margin is not distinctly limited. Scape yellow on the underside, more or less brown on the upper side; the first and the last segments of the funiculus partly reddish. Legs as in the ♀, the basal articles of the first pair sometimes partly darkened.

It is not possible to place these various types of colouration in a graded series, going from the darkest to the lightest, because there is a certain independence in the colouration of the various parts of the body. As most primitive we may consider the specimen whose tergites are black with yellow and reddish bands; the designs of its thorax are yellow and slightly developed, and similar to *punctulatus*. The more evolved specimens are those which show a reduction of the light designs of the head and thorax, with an abdomen in great part ferruginous, and which are similar to *austeni*; between these extremes are to be placed the ♂♂ having well-developed light designs on the thorax.

Type ♀ and allotype ♂, Beersheba, in coll. de Beaumont; paratypes in coll. Bytinski-Salz and de Beaumont.

The species is distinguished from *punctulatus* by its colouration and the morphological details pointed out; it is distinguished from *eremorum* Beaum. by its stronger sculpture, the structure of the antennae of the ♂, the presence of broad yellow bands on the first tergites. It is undoubtedly nearest to *austeni*; the morphological differences are very slight (but they are always slight between the species of that subgenus); in *austeni* the colouration is darker: the head, thorax and last tergites are entirely or almost entirely black. In the future, *versicolor* will perhaps be linked subspecifically to *austeni*.

Distribution: Israel. FE: Endemic (Erem.).



*Gorytes (Dienoplus) aureus* Beaum. spec. nov.

♀♀: Bat Yam 5-21.V.1951 (leg. Verhoeff), Kurnub 28.IV (leg. By.-S.).

6 mm. Clypeus with the anterior margin regularly and somewhat deeper emarginate than in *elegans*, distinctly reflexed, the reflexed border without a distinct hem, not narrowed in the middle; 2nd segment of the funiculus 2.5 times longer than broad, as long as the 3rd; face proportionally narrower than in *elegans* Lep., but distinctly broader than in *laevis* Latr., with a fine median furrow in front of the anterior ocellus; its surface is dull, with a very fine pubescence which does not hide the sculpture, with a coriaceous microsculpture and small well-spaced points, scarcely visible at magnification of  $\times 20$ ; vertex more shining. Back of the thorax shining, with the usual double punctation; the "large" points are wide-spaced and somewhat smaller than in *elegans*; the mesopleurae and the mesosternum are covered with a recumbent silvery pubescence which almost completely hides the integument; the pimeral and episternal sutures are visible, however; dorsal area of the propodeum relatively shining, very distinctly limited, entirely striated; there are 2 parallel median carinae, scarcely sinuous, and on each side 5-6 oblique carinae, which are also slightly sinuous; the lateral areas show short striae perpendicular to the carinae limiting the dorsal area; the lateral faces of the propodeum, except for their shining anterior part, are covered with a pubescence similar to that of the mesopleurae; the middle part of the hind face is smooth and shining. The abdomen is covered with a fine light pubescence which does not hide the sculpture; the 1st tergite shows very fine punctation; the 2nd tergite is shining, with a double punctation, distinct and relatively dense, almost as in *laevis*; the punctation is less dense behind, but is distinct till the hind margin of the segment; on the 3 following tergites, the punctation is, as in the other species of the subgenus, much denser; pygidial area shiny, with wide-spaced punctation; the sternites 2-5 are relatively dull, with a very dense micropunctation and wide-spaced larger points. The spines of the legs are long and thin. In the fore wing the 3rd and 4th segments of the radial vein are nearly of the same length; the 2nd is scarcely shorter.

The body and the appendages are yellowish-ferruginous (orange-coloured), with small zones and whitish-yellow, indistinctly limited designs. The black parts are: the tip of the mandibles, the mesosternum, the greater part of the dorsal area of the propodeum, a line, enlarging below, on the posterior face of the latter. The yellow parts are: the base of the mandibles, the clypeus (except for a median spot), the frontal shield, broad orbital stripes, the collar, the humeral tubercles, a spot on the upper part of the mesepisternum, the scutellum, 2 spots on the 1st tergite, a band, strongly enlarged on the sides, on the 2nd, nearly all the 5th, spots on the fore and middle coxae and femora and, not distinctly indicated, the upper side of the fore and middle tibiae and the base of the hind tibiae. Wings subhyaline; veins of a light brown; stigma of a very light brown.

As is often the case among the *Dienoplus*, it is chiefly the colouration, here very particular, which will permit the ready identification of this species. Morphologically, it is

more related to *arenarum* Beaum., from Morocco; it has in common with this species the form of the head and clypeus, the dense pubescence of the mesopleurae and propodeum, the structure of the antennae; the nearly dull sternites; it can be distinguished (aside from the colouration) by the stronger and more regular striae of the dorsal area of the propodeum and the stronger and denser macropunctuation of the mesonotum and 2nd tergite.

Type in coll. Verhoeff, paratype in coll. By.-S.

Distribution: Israel. FE: Endemic (SS).

\* *Gorytes (Dienoplus) coccineus* Balth.

Jerusalem 13.IV, 1 ♂ (Balthasar 1954).

Distribution: Israel. FE: Endemic.

\* *Gorytes (Dienoplus) formosus* Jur.

♂: Bat Yam 15.X.

In this unique ♂, the sculpture is somewhat stronger than in central European specimens. The red parts are: the vertex, the upper and lateral faces of the thorax, the sides of the propodeum. The white parts are: the sides of the clypeus and of the face, large spots on the 1st tergite, a band on the 2nd and 5th; legs chiefly black.

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

\* *Gorytes (Dienoplus) houskai* Balth.

1 ♂: Kiryat Anavim 27.V; Jerusalem 20.VI, 1 ♀ (Balthasar 1954).

This ♂ may be associated with the ♀ described by Balthasar. Its description is as follows:

♂ *New description*:

10 mm. Like the ♀, it is of a robust appearance, very strongly sculptured and at first sight somewhat different from the other species of the subgenus. The anterior border of the clypeus is not regularly arched; the hem shows a small emargination in the middle, limited on each side by a rounded tooth; the clypeus is somewhat depressed behind this emargination; this structure recalls what we see in *tauricus* Rad., but more strongly marked; the 10th and 11th segments of the antennae are slightly excised, the 13th elongate, slightly curved. The sculpture of the different parts of the body is that described by Balthasar for the ♀; on the sides of the thorax, however, it is the inferior part of the mesopleurae (and not the mesepimerum) and the anterior part of the lateral faces of the propodeum which are impunctate and shiny; on the 2nd abdominal tergite, the punctuation is remarkably strong and dense, with points separated only by linear shining interspaces. The epimeral and episternal sutures are hardly visible in the strong sculpture of the mesopleurae. The 8th sternite is rounded at the tip. In this specimen, the cubitus of the hind wing originates immediately after the end of the anal cell, which is closed by a nervellus distinctly bent in its upper part.



The yellow designs are somewhat more developed than in the ♀ and include: the clypeus (except a basal black spot), orbital stripes, relatively broad on their inferior part, where they fill the space between the eye and the frontal shield, the humeral tubercles, 2 spots on the 1st tergite, an angularly excised band on the 2nd tergite, small spots on all the coxae, a spot at the tip of the fore and middle femora, the fore and middle tibiae (spotted with black on the posterior face), the fore and middle tarsi, the external face of the hind tibiae and basitarsi. A reddish spot on the posterior margin of the eye and another, more or less yellowish, at the tip of the hind femora; underside of the funiculus reddish. Wings relatively strongly infuscated.

Allotype: ♂ Kiryat Anavim 27.V.1942, in coll. By.-S.

Balthasar includes this species in the subgenus *Harpactes* (which is to be named *Dienoplus*) but indicates that it is close to *concinus* Rossi and especially to *infernalis* Hdl., which are generally classified in the subgenus *Oryttus* Spin. In fact, we may hesitate on the systematic position of the species, insomuch as in the ♂ here described the nervulation of the hind wing is similar to that of *Oryttus*. However, the short and broad 1st abdominal segment and the 8th sternite of the ♂ not being bifid at the apex show closer relations with the subgenus *Dienoplus*.

Distribution: Israel. FE: Endemic.

### *Sphecius*

*Sphecius antennatus* Kl.

♂♂♀: Jerusalem 12.V, Beeri 12.V, leg O. Theodor.

The determination of these specimens has been kindly revised by the specialist for this group, M. Paul Roth, Pau (France).

Distribution: S. E. Europe, W. and Central Asia. FE: Eastmed/IT.

### *Kohlia*

*Kohlia coxalis* Morice

♂♂, ♀♀: Revivim 16-19.V (leg. Verhoeff), 7.VI (leg. By.-S.); Kfar Yeroham 1.VI; Wadi Kelt 2.VI (Balthasar 1954).

The colour of live specimens is a light ivory white, which darkens considerably on drying.

Distribution: Egypt, Sahara, Eretz Israel. FE: SS.

### TRIBE: NYSSONINI

### *Nysson*

*Nysson (Brachystegus) braueri* Hdl.

♂♂, ♀♀: Jericho 19.VI; Wadi Kelt VI-VII (Balthasar 1954); Kfar Yeroham 5.VII.

Distribution: N. W. Africa, Eretz Israel. FE: ?Med.

\* *Nysson (s. s.) fulvipes* Costa

♂, ♀: Tiberias 21.III–25.IV; Kfar Giladi 16–17.V, Wadi Kelt IV, 1 ♀ (Balthasar 1954).

These specimens differ somewhat from those of Italy and Corfu in some details of sculpture. The clypeus is shining and slightly punctate above the 2 median teeth; the face and mesonotum are not so strongly reticulate and the micropunctation is therefore more apparent; punctuation of the abdomen stronger and denser.

Distribution: S. Europe, Eretz Israel. FE: Med.

\* *Nysson (s. s.) decemmaculatus* Spin. (*variolatus* Costa)

♂♂, ♀♀: Jericho 26.IV–26.V, Jericho and Jordan Valley (Mus. Vienna), Jerusalem 7.V, Deganya (leg. Palmoni), Dan 30.V, Beersheba 18.V (leg. Verhoeff).

Distribution: S. Europe, Cyprus, Eretz Israel. FE: Med.

\* *Nysson (s. s.) militaris* Gerst.

♂♂, ♀: Tiberias 9–16.V.

Distribution: S. Europe, Israel. FE: Med.

\* *Nysson (s. s.) interruptus* F.

♀: Jerusalem 1.V.

Distribution: Europe, N. W. Africa, Israel. FE: ES/Med.

TRIBE: ALYSSONINI

*Alysson*

\* *Alysson (s. s.) costai* Beaum.

♂♂: Binyamina 12.IV.

These 2 ♂♂ may provisionally be considered as belonging to the species recently described (1953). They have in common with the Italian ♂♂ the structure of the funicles and of the fore coxae, the coloration of the head, abdomen and legs; they differ by the clypeus being slightly produced in the middle of the anterior margin and by the more distinct and denser punctuation of the mesopleurae and of the anterior part of the lateral faces of the propodeum, the weaker reticulation of the propodeum and the entirely black thorax.

Distribution: Italy, Israel. FE: Med.

\* *Alysson (Didineis) clavimanus* Gussak.

♀: Hadera 20.IV.

Since there was only one poorly preserved ♀, it is difficult to confirm the correctness of this identification. The specimen corresponds comparatively well to the description (Gussakovskij 1937) by the upper part of the face being finely and longitudinally striate, the vertex smooth, the dorsal area of the propodeum regularly



iated, the punctuation of the mesonotum well-spaced, and tufts of hair present on the first 2 tergites; however, transversal carinae on the pronotum were not noticed. Distribution: S. E. Russia, Israel. FE: ?IT.

### *Entomosericus*

*Entomosericus concinnus* Hdl.

♀: Jerusalem 7.V–23.V.

The abdominal punctuation is less dense and more irregular than in the ♀♀ from Rhodes (loc. typ.).

Distribution: S. E. Europe, N. W. Africa, W. Asia. FE: Med.

### SUBFAMILY: PHILANTHINAE

### *Cerceris*

For further details concerning this genus, consult the papers published (1952) on the *Cerceris* of France and of North Africa.

*Cerceris sabulosa* Panz. (Group: *C. rybyensis* L.) (Syn.: *C. emarginata* Panz. [Bod. 1937]).

♂♂, ♀♀: Jerusalem 15.V–11.X, Dir Yasin 12.VII, Maaleh Hahamisha 11.VI, Ramle 24.VI, Binyamina 20.IV, Haifa (Carmel) 18.VI, Elon 15.VIII, Geva 5.IX, Deganya (leg. Palmoni), Hazor 11.V, Ruhama 27.VIII, Beersheba 14–23.VI.

As in individuals of Cyprus, the punctuation is heavier than in those of Europe and the yellow markings are well developed.

Distribution: S. and Central Europe, N. W. Africa, W. and Central Asia. FE: Med.

*Cerceris lunata* Costa (Group: *C. rybyensis* L.)

♂♂, ♀♀: Tiberias 8.V, Deganya (leg. Palmoni), Hula 23.VI (leg. Wahrmann), Bulot 30.V.

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

*Cerceris galathea* Beaum. spec. nov. (Group: *C. rybyensis* L.) (Figures 9, 10).

Jerusalem 12–14.V.1951 (leg. Verhoeff) 1 ♀; Syria: Douma near Damascus 1.V.1955 (leg. A. Mochi Jr.) 1 ♂ ♀.

♀. 11 mm. The sculpture of the body is as strong as in *lunata* Costa, to which this new species is very similar at first sight. The mandibles being worn in the 2 specimens examined, we cannot specify the shape of their inner edge; there is probably a small tooth; face and lateral lobes of the clypeus dull, with a dense but vague punctuation; the median lobe of the clypeus, as long as broad, is shinier, with a more coarse punctuation; its anterior margin is straight; its depression extends at least to the lower half and in front reaches the lateral angles; it is deeper than in *lunata*, about as in *sabulosa* Panz.; eyes distinctly diverging below; the smallest width of the face,

on the level of the antennal sockets, is somewhat greater than the distance between the top of the latter and the anterior margin of the clypeus; between the antennal sockets and the ocelli, the face is much more distinctly striate than in the related species; the striation is fine, with mixed elongate points; POL:OOL = 3:4; punctuation of vertex wide-spaced behind the ocelli, where some interspaces are larger than the points; in the type specimen, there are relatively large impunctate shining areas on each side of the posterior ocelli and at the superior margin of the eyes; these zones are less distinct in the paratype; on the temples, there are striae mixed with points. Collar with rounded shoulders; prosternum without carinae, with a fine and wide-spaced punctuation; tegulae shiny, with some very small points; mesonotum shiny, with a relatively dense punctuation; it is only on its disc that we find interspaces larger than the points; scutellum shiny, with the interspaces much larger than the points; mesopleurae reticulate; their upper part is not limited below by a carina; mesosternum with a fine, distinct and wide-spaced punctuation on a micropunctate surface; propodeum with a very dense punctuation; in the type specimen the dorsal area is finely striated, with a narrow median furrow; the striae are oblique in the fore part, transversal in the hind part; in the paratype, the dorsal area is in part smooth, and in part irregularly and finely coriaceous.

First abdominal segment short; punctuation of the tergites not very dense; on the 4th, for instance, the interspaces are partly larger than the points; pygidial area dull punctate only at the base, shaped like in *rybyensis*, but somewhat narrower; the platform of the 2nd sternite is large, reaching nearly the middle of the segment; it is slightly elevated, but its posterior margin, slightly arched, is very distinct; its surface is shiny, with some very small points; the punctuation of the sternites 2-4 is fine and very wide-spaced; the 5th sternite is somewhat depressed; its posterior angles are rounded. Hind basitarsus without spines on its external face. Basal lobe of the hind wing reaching to one third of the anal cell.

The designs are white, somewhat yellowish on the abdomen of the type specimen. In this latter, the markings include: the mandibles, the clypeus (its anterior margin black), the usual spots of the face, the greater part of the tegulae, 2 spots at the base of the 2nd tergite, bands in the hind part of the tergites 3-5 (Figure 9), lateral spots on the sternites 3 and 4. Scapes black with the underside white; funiculus reddish on the underside, dark on the upper side. Coxae and trochanters black, those of the 1st pair spotted with white at the tip; fore and middle femora black and reddish with an apical yellow spot, more developed on the underside, not distinctly limited; hind femora reddish, with an apical yellow spot; fore and middle tibiae and tarsi yellow; hind tibiae yellow, with a reddish spot at the end of the internal face; hind tarsi reddish. Wings subhyaline. The ♀ paratype has the white designs more extended, including very small spots on the upper part of the temples, 2 spots on the collar, the postscutellum; the abdominal bands are more developed; the dark parts of the femora are black, with the light spots distinctly limited; the apical spot of the hind tibia is blackish.



♂. 8.5 mm. The sculpture is hardly stronger than in the ♀. Face and clypeus shiny, with a relatively dense punctation; micropunctation is seen only on the lateral lobes of the clypeus; the median lobe is less convex than in *rybyensis*; its anterior border straight, scarcely protruding in the middle; in front of the ocelli, the face is striated in the ♀, but more irregularly; on the mesosternum, the spaces between the punctation are shiny; the dorsal area of the propodeum is smooth on both sides of a deep median furrow, striated on both sides. The sternites are shinier than in the ♀; the platform of the 2nd sternite is more elevated and more distinctly punctate. Funiculus with a very short pubescence on its posterior face; the 2nd segment is twice as long as broad; the 3rd segment is somewhat shorter than the 2nd, the penultimate somewhat longer than broad. As in the ♀, the pubescence of the body is long. The designs are white, including: a spot at the base of the mandibles, the clypeus, the face, a large spot on the tegulae, the postscutellum, a spot at the base of the 2nd tergite, the 3rd tergite (with a median black spot), narrow terminal bands on the tergites 4 and 5, a broader band on the 6th (Figure 10), a band on the 3rd sternite. Scapes spotted with white on the underside; funiculus reddish on the underside, black on the upper side. Legs black with the same light parts as in the ♀; the apical spot of the hind tibia is black; the hind tarsi black, spotted with yellow on the underside. This new species is similar to *lunata*, but may be distinguished from it by the striation of the upper part of the face, the sculpture of the dorsal area of the propodeum, the larger platform of the 2nd tergite, which is not or is scarcely punctate, the deeper impression of the clypeus of the ♀, the broader pygidial area of the ♀, and the designs which are also white in the ♂. The 2 ♀♀ are somewhat different, particularly in the sculpture of the dorsal area, but the chief characters are alike; the ♂, captured not far from the ♀ paratype, seems, by virtue of its sculpture and colouration, to be legitimately associated with the ♀.

Type ♀, Jerusalem, in coll. Verhoeff; paratype ♀ and allotype ♂ in coll. de Beaumont. Distribution: Israel, Syria. FE: Eastmed.

*Cerceris dispar* Dahlb. (Group: *C. rybyensis* L.)

♂♂, ♀♀: Jerusalem 15.VII, Dir Yasin 7.VIII, Binyamina 10.VIII, Haifa (Bat Galim) 27.VII, Kfar Ata 8.VII, Ras el Nakura 9.VII, Alonim 17.VI, Ein Harod 1.IX, Meganya (leg. Palmoni), Ruhama 20.VI–27.VIII, Beersheba 18.V (leg. Verhoeff). Distribution: Cyprus, W. Asia. FE: Eastmed.

*Cerceris eryngii* Marq. (Group: *C. rybyensis* L.)

♂: Jerusalem 15.VI

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

*Cerceris spinipleuris* Beaum. sp. nov. (Group: *C. rybyensis* L.) (Figures 1, 6)

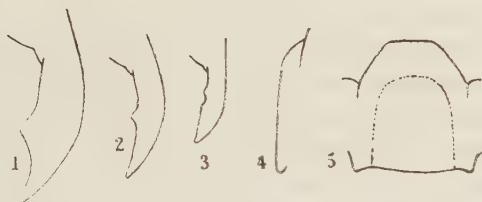
♂♂, ♀♀: Jerusalem 8.VI–17.VII, Gvulot 18–30.V, Beersheba 23.VI, Kfar Yeroham 1.VI.

♀. 11–14 mm. In relation to its relatively large size, the sculpture of the whole body is distinctly stronger than in *rybyensis*, for instance. Mandibles with only one strong tooth on the inner edge (Figure 1); face and clypeus relatively shiny, with an indistinct double punctation; eyes distinctly diverging below; the smallest width of the face, at the level of the antennal sockets, is equal to the distance between the top of the latter and the anterior margin of the clypeus; median lobe of the clypeus as long as broad, with the anterior margin nearly straight; its depression, relatively shallow (as in *sabulosa* Panz. for instance), extends to about its lower half; in front the depression does not occupy the whole width of the anterior margin, but is limited somewhat inside the lateral angles; in front of the ocelli, the face is strongly and rugosely punctate, with a thin median carina; OOL scarcely longer than POL; the head is strongly developed behind the eyes; behind the ocelli, the punctation is not dense, with shining interspaces greater than the points; on the sides of the vertex and the temples, the punctation is strong and dense. Collar with rounded shoulders; prosternum without carinae, with a fine and wide-spaced punctation; tegulae shiny, with some very small points; back of the thorax very shiny; on the disc of the mesonotum and on the scutellum, the interspaces are much larger than the punctation; upper part of the mesopleurae limited below by an indistinct carina; underpart bearing a strong acute tubercle; mesosternum with a dense punctation, the interspaces smaller than the points; propodeum shiny, with narrow interspaces between the punctation; the dorsal area is smooth and shiny, with very short striae along its lateral margins and with a well-defined median furrow. The 1st abdominal segment is short and broad; the punctation of the tergites is relatively dense, with interspaces everywhere smaller than the points; the pygidial area is very similar to that of *rybyensis*; the platform of the 2nd sternite extends to one-third of the length of the segment; it is dull, not or indistinctly punctate; its posterior margin is slightly bent, distinctly limited; the remaining part of the 2nd sternite shows a dense punctation, with interspaces smaller than the points; the following sternites are also densely punctate; the 5th is depressed along its median line with relatively acute posterior angles. End part of the antennae less swollen than in *rybyensis* or *sabulosa*, with the segments distinctly longer than broad; hind basitarsus with 2 well-developed spines on its external face. Basal lobe of the hind wing reaching nearly the middle of the anal cell.

The light designs of the body, of a yellowish white (somewhat yellower on the thorax) include: the mandibles, the clypeus (its anterior margin is ferruginous), the face (a median line extends upwards somewhat further than the frontal carina), a small spot on the upper part of the temples, a larger spot on the underpart of the temples, touching the articulation of the mandibles, 2 spots on the collare, part of the tegulae, a spot on the upper part of the mesopleurae, a large spot extending nearly over the whole of the mesosternum and the underpart of the mesopleurae and metasternum, bands on the tergites 2–5, disposed nearly like those of *lunata* Costa (Figure 6), and the greater part of the sternites 2–5. Scape yellow; funiculus reddish,



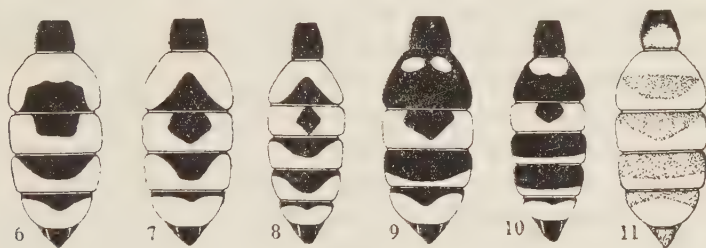
arker on the upper side; legs yellow, the femora in part reddish, or even blackish; the coxae are marked with black or brown. Wings slightly smoky, with the apical border darker.



Figures 1 to 5

*Cerceris* of the *rybyensis* group

1. *C. spinipleuris* Beaum. spec. nov., ♀, mandible; 2. *C. pleurispina* Beaum. spec. nov., ♀, mandible; 3. *C. clytia* Beaum. spec. nov., ♀, mandible; 4. *id.*, clypeus in side-view; 5. *id.*, clypeus in front-view



Figures 6 to 11

*Cerceris* of the *rybyensis* group; coloration of the abdomen

6. *C. spinipleuris* Beaum. spec. nov., ♀; 7. *C. pleurispina* Beaum. spec. nov., ♀; 8. *id.* ♂; 9. *C. galathea* Beaum. spec. nov., ♀; 10. *id.* ♂; 11. *C. clytia* Beaum. spec. nov., ♀

♂. 10–11 mm. The punctuation of the various parts of the body is much stronger than in the ♀. Face and clypeus shiny, with a strong macropunctuation; the median lobe of the clypeus, strongly convex, with the anterior margin nearly straight, shows no micropunctuation; the latter is present on the inferior part of the lateral lobes, which show a relatively dense pubescence; upper part of the face and vertex with very strong and very dense punctuation, except just behind the ocelli, where there are some shiny interspaces; POL somewhat greater than OOL. Punctuation of the back of the thorax denser than in the ♀; there are, however, some shiny interspaces on the disc of the mesonotum as large as the points and on the scutellum larger than the points; mesopleurae without tubercle; mesosternum with a very dense punctuation; on the propodeum, some narrow shiny interspaces between the points; there may be 1 or 2 very small points on the shiny dorsal area. Tergites with a dense punctuation; platform of the 2nd sternite somewhat more distinctly punctate than in the ♀; the sternites 2 to 6 are covered with a relatively long decumbent pubescence, sufficiently dense to hide the integument when the insect is seen at certain angles; the posterior angles of the 6th sternite are less acute than in the ♀. Funiculus with an extremely

short ciliation on its posterior face; the 2nd segment is nearly twice as long as broad at the end; the 3rd is 1.5 times longer than broad; the penultimates somewhat longer than broad; hind basitarsus with 1 or 2 spines on its external face.

The designs are of a somewhat whitish yellow on the head, of a golden yellow on the thorax and abdomen. Mandibles yellow with black tips; clypeus yellow with the anterior margin ferruginous; face with the usual markings; as in the ♀, a narrow yellow line extends from the frontal carina in the direction of the anterior ocellus; one of the individuals has small spots on the temples. The darker specimen has the following yellow markings on the thorax: 2 spots on the collar, the greater part of the tegulae, 2 superposed spots on the mesopleurae, small spots on the meso- and meta-sternum; on the lighter ♂, the inferior spots of the mesopleurae meet on the meso-sternum, which is for the most part yellow, and there are besides 2 small spots on the postscutellum and 2 larger spots on the propodeum. The 1st tergite is black, with or without a median yellow spot; tergites 2-6 are for the most part yellow, the 2nd somewhat darkened along its posterior margin, the 4-6th along their anterior margin; the 7th tergite black or reddish; sternites for the most part yellow. Scape yellow, funiculus reddish; legs yellow, the anterior coxae partly black.

The ♀ of this new species is at first characterised by the tubercle of the mesopleurae. In the group of *rybyensis* this character is seen in *histrionica* Kl., which is very different in the wide-spaced punctuation of the propodeum and the elongate 1st segment and is also seen in some species from Central Asia which I did not see, but whose description does not correspond to *spinipleuris*; we can further note as important characters the strong tooth of the mandibles, the wide-spaced punctuation of the mesonotum, the light highly-developed markings on the lateral and ventral faces of the thorax. The ♂ is of a very different appearance, but its capture in the same localities as the ♀, the acute angles of its 6th sternite, its type of colouring and some other characters of sculpture permit agreement that the pairing is a legitimate one; this ♂ is readily distinguished by the very dense pubescence of the sternites.

Type ♀ and allotype ♂, Gvulot, in coll. de Beaumont; paratypes in coll. Bytinski-Salz and de Beaumont.

Distribution: Israel. FE: Endemic.

\* *Cerceris pleurispinga* Beaum. spec. nov. (Group: *C. rybyensis* L.) (Figures 2, 7, 8)  
♂♂, ♀♀: Jericho 18.VII-22.VIII; Tiberias 9-10.V (leg. Verhoeff); Beersheba 23.VI.

♀. 9 mm. The sculpture of the body is of the same strength as that of *rybyensis* L. Mandibles with a moderately developed tooth on the inner edge (Figure 2); face and clypeus relatively dull, with a very fine and dense micropunctuation and some wide-spaced larger points; eyes distinctly diverging below; the smallest width of the face at the level of the antennal sockets is equal to the distance between the bottom of the latter and the anterior margin of the clypeus; median lobe of the clypeus as long as broad, with the anterior margin truncate; its depression, very shallow, is



similar to that of *eryngii* Marq.; it extends on less than the lower half of the median lobe; in front it does not occupy the entire width of the anterior margin, but is limited, at some distance from the lateral angles, by obtuse longitudinal carinae; the punctation is dense in front of the ocelli and on the sides of the vertex, somewhat more wide-spaced behind the ocelli, where there are some interspaces as large as the points; POL scarcely greater than POL. Collar with rounded shoulders; prosternum without carinae, with a fine and wide-spaced punctation; tegulae shiny, with some very small points; back of the thorax very shiny; on the disc of the mesonotum and on the scutellum the interspaces are much larger than the points; upper part of the mesopleurae limited below by a very indistinct carina; underpart bears a strong acute tubercle; mesosternum with a very fine basal punctation and larger points very wide-spaced on its median part; propodeum shiny, with the interspaces smaller than the points; the dorsal area is smooth and shiny, with very short striae along its lateral margins and with a clearly-marked median furrow. The first abdominal segment is short and broad; the punctation of the tergites is dense, with interspaces everywhere smaller than the points; the pygidial area is of the same form as in *abyensis*, with a more distinct punctation; the platform of the 2nd sternite is small, extending scarcely to the third part of the segment; it is relatively shiny, with some points; its posterior margin is arched, somewhat irregular, but distinctly limited; the hind part of the 2nd sternite and the middle part of the sternites 3 and 4 show fine and wide-spaced punctation; the 5th is more densely punctate, scarcely depressed, with its posterior angles not acute. End part of the antennae less swollen than in *abyensis*, with the segments distinctly longer than broad; hind basitarsus without spines on its external face. Basal lobe of the hind wing reaches nearly to the middle of the anal cell.

The markings are of a whitish yellow on the face, of a darker yellow on the other parts of the body; they are differently developed in the 2 individuals. In the one that we chose as type specimen, from Tiberias, they include: the mandibles, the clypeus (its anterior margin is ferruginous), the usual designs of the face, with a median line extending nearly to the front ocellus, relatively large spots on the upper part of the temples, 2 spots on the collar, the tegulae, a spot on the upper part of the mesopleurae, an interrupted band on the postscutellum, broad bands on the tergites 2-5 (Figure 7), the greater part of the sternites 2-4, 2 spots on the 5th. Scapes yellow, funiculus reddish, darker on the upper side; legs yellow, with the front coxae and a part of the middle and hind coxae black. The other specimen, from Jericho, is lighter: the spots of the temples are very large; the mesopleurae and the meso- and metasternum are almost entirely yellow; 1st segment spotted with yellow; coxae yellow; wings slightly smoky, with the apical border darker.

♂. 7.5-10 mm. The punctation is somewhat stronger than in the ♀. The face and the clypeus are sculptured in a similar way, dull, with a dense and double punctation; the median lobe of the clypeus is moderately convex; its anterior margin is straight, slightly extended in the middle; upper part of the face and vertex with a dense punc-

tation, except behind the ocelli, where there are shiny interspaces between the punctation; POL nearly equal to OOL. The punctation of the back of the thorax is somewhat denser than in the ♀; on the disc of the mesonotum and on the scutellum, however, the interspaces are distinctly larger than the points; mesopleurae without tubercle; mesosternum with a punctation somewhat denser than in the ♀, but spaced; propodeum, tergites and particularly the sternites with a denser punctation than in the ♀; sternites 3 to 6 show a very characteristic fringe of hair on their basal part, in front of the median elevated and punctate part; these hair are dense, shiny, about as long as the width of the middle part of the hind basitarsus. Funiculus with an extremely short ciliation on its posterior face; the 2nd segment is twice as long as broad at the end; the 3rd, 1.5 times longer than broad; the penultimates somewhat longer than broad.

The designs are of a whitish yellow on the face and a golden yellow on the other parts of the body. Clypeus and face as in the ♀; the temporal spots are present in 2 of the 4 specimens. On the thorax of the darker individual, 2 spots on the collar and the tegulae are yellow; in the lighter one (from Jericho), there are 2 large superposed spots on the mesopleurae; large spots on the propodeum and the scutellum; postscutellum, meso- and metasternum are spotted with yellow. The 1st tergite is black, tergites 2-6 largely spotted with yellow (Figure 8), the 7th sometimes with a yellow spot on the base; sternites 2-5 more or less spotted. Scape yellow; funiculus reddish, with the upper side darkened; legs yellow, with the coxae, chiefly those of the front pair, more or less spotted with black.

The ♀, like that of *spinipleuris*, is characterised by the tubercle of the mesopleurae and wide-spaced punctation of the back of the thorax; it is, however, distinguished from this species by its smaller size, the smaller tooth of the mandibles, the structure and sculpture of the clypeus, the rounded angles of the 5th sternite, the more wide-spaced punctation of the mesosternum. The ♂ may be identified by the fringes of hair of the sternites; the dense and distinctly double punctation of the clypeus is also characteristic.

Type ♀ and allotype ♂, Tiberias, in coll. de Beaumont; paratypes in coll. Bytinski-Salz and Verhoeff.

Distribution: Eretz Israel. FE: Endemic.

\* *Cerceris clytia* Beaum. spec. nov. (Group: *C. rybyensis* L.) (Figures 3, 4, 5, 11) Beersheba 13.VII, 2 ♀♀. Algeria: Biskra 24.V.57, 1 ♀ (leg. Eaton).

♀. The specimens of Beersheba are 8 mm long, that of Biskra, distinctly larger, 10 mm long. The sculpture is moderately strong for a species of this size. The mandibles show 2 small teeth on their inner edge (Figure 3); side parts of the face and lateral lobes of the clypeus dull, with a double and dense punctation, covered with a short white pubescence which almost completely hides the integument; median lobe of the clypeus with the anterior margin slightly protruding in the middle and limited on each side by a distinct angle (Figure 5); its base is more convex than that of the



other species of the group (Figure 4); the very shallow depression does not extend over the entire sclerite and is limited laterally, as in *eryngii* and *pleurispina*, by low ridges; the depressed zone is shiny and irregularly sculptured; the basal and lateral parts are dull and pubescent like the lateral lobes; the face is relatively narrow; its width, on the level of the antennal sockets, is equal to the length between the inferior margin of the latter and the anterior margin of the clypeus; eyes distinctly but not strongly diverging below; the punctuation of the upper part of the face and of the vertex is nowhere very dense; on the vertex, there are interspaces larger than the points; POL = OOL; the head is strongly narrowed behind the eyes; its inferior face is shiny, with spaced punctuation, without striae. Collar with the superior face slightly concave, with the shoulders relatively prominent, but rounded; its posterior border, along the mesonotum, is smooth and shiny, with a median coriaceous triangle; tegulae shiny, with 1 or 2 very small points; prosternum shiny, without carinae, with wide-spaced and distinct small punctuation; process of the anterior coxae short, unpunctate; back of the thorax shiny; mesonotum with a relatively dense punctuation in front and behind, but having on the disc interspaces much larger than the points; scutellum with a very wide-spaced punctuation; upper part of the mesopleurae limited below by a fine carina; mesosternum shiny, with a micropunctuation and a heavier stronger punctuation with interspaces here and there larger than the points; propodeum relatively shiny, but with a basal sculpture already evident at a magnification of  $\times 30$ ; the dorsal area is smooth, with some fine transversal striae on its extreme base; it is limited on the sides and divided in the middle by furrows; along the dorsal area, the punctuation of the lateral parts is not very dense, with interspaces as large as the points (the punctuation is somewhat denser in the larger Algerian specimen). The dorsal face of the 1st tergite is as long as broad; punctuation of the tergites dense, without interspaces larger than the points; in form, the pygidial area is similar to that of *rybyensis*; its surface is dull, somewhat irregularly sculptured, with some very small points on the basal part; platform of the 2nd sternite reaching the middle of the segment, slightly elevated; its surface is microsculptured, but shiny, with some points; its posterior margin is nearly straight; the sternites 2-4 are very sparsely punctate in the middle part, more densely on the sides; the 5th sternite is densely punctate in its whole surface with somewhat protruding posterior angles. Hind coxae carinated as in most species of that group; hind basitarsus with only a small spine on its external face. The pubescence of the vertex, the back of the thorax and the abdomen is very short. Basal lobe of the hind wing shorter than the half, but longer than the third part of the anal cell.

Head and thorax black with well-developed designs, of a slightly yellowish white. The specimen of Biskra is discoloured, like most specimens of the Eaton collection). The light markings include: the mandibles, the clypeus (its anterior margin is testaceous), the face, with a median line, widened at the tip, where it reaches nearly the anterior ocellus, lines running along the inner border of the eyes and reaching the vertex in 2 specimens, the temples and the greater part of the underside of the head,

the greater part of the prothorax, 2 spots on the scutellum (linked in the Algerian specimen), the mesopleurae and the mesosternum, part of the metapleurae and the metasternum, 2 very large lateral spots on the propodeum. The abdomen is finely coloured (Figure 11); it is in great part of a somewhat yellowish white; the base and the lateral parts of the 1st tergite are black or more or less ferruginous; tergites show ferruginous bands, situated in the middle on the 2nd segment and in the base on the segments 3-5; 6th segment ferruginous; some ferruginous spots on the sternites. Scapes of a yellowish white; funiculus reddish, somewhat darkened on the upper side. Legs of a yellowish white, with blackish markings, including an elongate spot on the posterior face of the fore and middle femora, the whole posterior face of the hind femora, a spot occupying nearly the whole length of the posterior (internal) face of the hind tibiae, becoming reddish at its 2 ends. Wings hyaline, with the apical border scarcely smoky.

The ♀ of this fine small species is easily distinguished by its colouration: high development of the light colour on the inferior parts of the head and thorax, with a black vertex and mesonotum; position of the band of the 2nd tergite; internal face of the hind tibiae entirely dark. The structure of the clypeus is characteristic also.

Type ♀, Beersheba, in coll. de Beaumont; paratype, Beersheba, in coll. Bytinski-Salz; paratype ♀, Biskra, in coll. British Museum. This last specimen is the one that I pointed out after the description of *gaetula* species, saying that it was probably the representative of a distinct species.

Distribution: Israel (Negev), S. Algeria. FE: SS.

\* *Cerceris fimbriata* Rossi (Group: *C. rybyensis* L.)

♂♂, ♀♀: Revivim 10-19.V (leg. Verhoeff and Bytinski-Salz), Kfar Yeroham 12.VI-15.VII, Wadi Fukra 3.VII.

We described 2 ♀♀ from Egypt and the Sinai and linked them subspecifically to *fimbriata*, without naming them. The 6 ♀♀ from the Negev are similar, but have the pale markings sometimes less developed. We can note that the spots of the collar and the mesopleurae are not whitish like the other markings, but yellow. The 16 ♂♂ are distinguished from those of the typical race by the more acute angles of the collar, the more distinctly carinate upper part of the mesopleurae below, the pale more extensive markings, including the face, the collar, the postscutellum, large spots on the propodeum, the anterior part of the 2nd tergite, tergites 3, 5 and 6, and sternites 2 and 3 and a part of the following ones; these designs are of a whitish yellow on the face and the postscutellum and of a deeper yellow on the other parts of the body. The anterior margin of the clypeus is ferruginous, as in the ♀. We have shown the reasons we hesitate to name this rather distinct race.

Distribution: S. Europe, W. and Central Asia. FE: Med/IT.



*Cerceris fischeri* Spin. (Group: *C. rybyensis* L.)

Many ♂♂: Jericho 16.VII–22.VIII, Ein Gedi 1.VI, Ramleh 24.VI, Ramat Gan 1.VIII, Naharya 7.V, Ras el Nakura 13.IX, Dahlia 3.X, Geva 5.IX, Tiberias 9.V, Meganya (leg. Palmoni and Wahrmann), Ruhama 27.VIII, Beersheba 4–23.VI. Distribution: N. Africa, Eretz Israel. FE: SS/Med.

*Cerceris circularis* F. (Group: *C. rybyensis* L.)

♂♂: Nahariya 7.V, Ras el Nakura 9.VII.

As in specimens of Turkey, Cyprus and Syria, the markings are of a golden yellow, well developed. It is probably to this East Mediterranean race that the name of *magnifica* Schlett. is to be applied.

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

*Cerceris pulchella* Klug (Group: *C. rybyensis* L.)

As pointed out, *C. pulchella* is well characterised by the spinulation of the legs being more developed than in the other species of the group, the presence of carinae on the prosternum, the presence in the ♀ of a tooth on each side of the anterior margin of the clypeus, at some distance outside the lateral angles of the median plate (sometimes hidden by the pubescence), and the broad and finely-sculptured pygidial area of the ♀. The density of the punctation and the colouring are variable in an individual, geographical and seasonal manner.

The individuals of Israel examined belonged for most part to 2 forms, clearly distinct in their sculpture and coloration. These 2 forms are mostly found in different localities, but do not constitute 2 distinct geographical races; e.g., in Bat Yam, they are together. Thus, it seems at first that we are in the presence of 2 distinct species. However, the constancy of the fundamental characters and the fact that some intermediate individuals can be found in Bat Yam have us believe that they are 2 forms of the same species; for the convenience of the nomenclature, we consider them as subspecies.

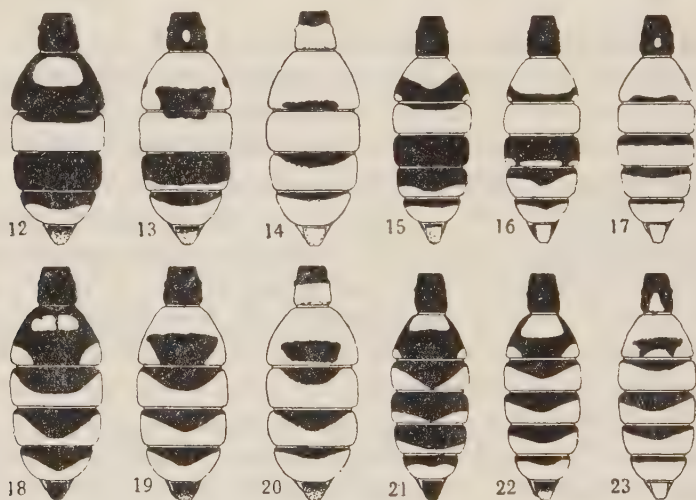
*Cerceris pulchella pulchella* Klug

16♂♂, 13♀♀: Bat Yam 19.V–15.X, Beersheba 6.VI (Figures 12–17).

The punctation is similar to that of Egyptian specimens, which represent the typical race; it is relatively wide spaced, chiefly in the spring individuals. For instance, the ♀♀ of the months of May and June show on the mesonotum and the scutellum interspaces distinctly larger than the punctation and on the propodeum some interspaces larger than the points; the punctation is somewhat denser in the ♂♂; the hind border of the collare is shiny. In the estival ♀♀ examined, the punctation remains relatively wide-spaced on the back of the thorax, but is dense on the propodeum.

Figures 12 to 17 show the type of variation of the abdominal markings; most or all of the 3rd tergite is yellow; the 4th is always much darker than the 3rd; most of the pygidial area of the ♀ is reddish. In the darkest specimens,

the temples, the mesopleurae, the scutellum and the propodeum are black; the markings are of a whitish yellow. In the individuals of lighter colouring, there appear 2 superimposed spots on the temples and on the mesopleurae, one spot on the scutellum and 2 spots on the propodeum. In the ♀♀ of lightest colouring, the markings are golden yellow and are very extensive, including, for instance, the temples and the underside of the head, 2 spots on the vertex, the scutellum, the mesopleurae, a great part of the underside of the thorax, very large spots on the sides of the propodeum and a part of its dorsal area; the colouring of the legs follows that of the body. In the darkest specimens, the coxae, trochanters and femora are in great part black. It is to be noted that in all the specimens there is a yellow median line on the face, reaching nearly to the anterior ocellus. The ♂♂ are on the average darker than the ♀♀.



Figures 12 to 23

*Cerceris pulchella* Klug; coloration of the abdomen

12-14. *pulchella pulchella* Klug ♀; 15-17. *id.* ♂; 18-20. *pulchella scabra* Beaum. subsp. nov. ♀; 21-23. *id.* ♂

This chromatical variation seems to be partly geographical, but chiefly seasonal. The darkest specimens (13 ♂♂, 8 ♀♀) were caught at Bat Yam in May and June (1 ♂, with worn wings, from July 5 probably belongs to this generation); the 6 specimens of Beersheba, from June 6, are on the average distinctly lighter; but it is these 2 ♀♀ caught at Bat Yam on July 5 and also that of October 15 which are the lightest and which have also the densest punctation. Thus it seems, on the basis of this limited material, that there are a vernal dark generation and one or more estival and autumnal generations of lighter colouring.

Mochi (1938), who named this species *alfierii*, has also noted that in Egypt it is to be found in a darker and more vernal form, *al. picta* Mochi, and in a lighter estival form, *al. alferii*. According to the information given by Mochi and to the few



Egyptian specimens examined, the Israel individuals are darker than the Egyptian ones of the same season (geographical variation).

Distribution: Egypt, Sahara, Israel. FE: SS.

\* *Cerceris pulchella scabra* Beaum. subsp. nov. (Figures 18-23)

23 ♂♂, 20 ♀♀: Tel Aviv 15.V, Bat Yam 19.V-15.VI, Ashkelon 15.X, Nir Am 5.IX, Khan Yunis, 12 miles SW. of Gaza VI (leg. Austen), Deir el Belah, 8 miles SW. of Gaza 10.V (leg. Austen), Ruhama 20.VI, Ramat Gan 9.V-12.VI, Bnei Brak 28.VI, Herzliah Dunes 1.IX, Raananah 26.X, Hadera 25.VIII, Pardes Hannah 12.VII, Haifa (Kishon) 28.VII, Nahariya 11.VI, Ras el Nakura 9.VII, Deganya (leg. Palmoni); Syria: Tartous 11.VI (leg. A. Mochi Jr.).

The punctuation of the various parts of the body is distinctly denser than in the specimens of the preceding form. On the mesonotum of the ♀, there are rarely some interspaces larger than the points; on the propodeum, the punctuation is dense; pygidial area of the ♀ more dull.

The light designs are, even in the darkest specimens, less whitish than in the former form. The variation of the abdominal markings is of a different type (Figures 18 to 23); the 3rd tergite is never entirely light and the 4th never entirely black; the development of the basal black spots is always relatively similar on tergites 3, 4 and 5; in the darkest ♀♀, the pygidial area is black. We seldom find ♀♀ without spots on the temples, the mesopleurae and the propodeum; the lightest ones are not as spotted with yellow as those of the other form. The ♂♂ always remain relatively dark. It is only in some very light ♀♀ that one can see some traces of the yellow facial line.

The study of these specimens has shown that the variation in this case also is in great part seasonal. The dark specimens are those of May and the first half of June; in the ♀♀, the temporal spots, for instance, always remain small. In the specimens from June 20 to the end of October, the yellow designs are more spread; the temporal spots of the ♀♀ are large.

Type ♀ and allotype ♂, Ramat Gan 10.VI, in coll. de Beaumont; paratypes in coll. Bytinski-Salz, Verhoeff and de Beaumont.

Distribution: Israel, Syria. FE: ?Eastmed.

\* *Cerceris cheops* Beaum. (Group: *C. rybyensis* L.)

1 ♂: Wadi Fukra 12.VI.

Distribution: Egypt, Sahara, Israel (Negev). FE: SS.

\* *Cerceris pruinosa* Morice (Group: *C. rybyensis* L.)

♂♂, ♀♀: Jericho 30.IV, Beersheba 23.VI, Wadi Fukra 3.VII, Tel Yeroham 7.VI.

The punctuation is slightly stronger and denser than in the specimens of North Africa; the black colour is more wide-spread on the vertex and the mesonotum.

Distribution: Egypt, Sahara, Eretz Israel. FE: SS.

\* *Cerceris histrionica* Klug (Group: *C. rybyensis* L.)

♂♂ ♀♀: Jericho 22.VIII–15.XI, Jerusalem IX.

These individuals are small and very similar in structure and colouration to *syrkuti* Dahlb.

Distribution: Egypt, Sahara, Eretz Israel. FE: SS.

\* *Cerceris albicincta* Klug (Group: *C. rybyensis* L.)

2♂♂ 3♀♀, Wadi Kelt VI and VII (Balthasar 1954).

We have not seen specimens, but they belong to the former species, from which *albicincta* is very difficult to distinguish.

Distribution: Egypt, Sahara, Sudan. FE: SS.

\* *Cerceris pallidula* Morice (Group: *C. rybyensis* L.)

♂♂ ♀♀: Gvulot 30.V, Urim 17.V, Revivim 11.V–3.VI.

Distribution: Egypt, Sahara, Israel (Negev). FE: SS.

\* *Cerceris bupresticida* Duf. (Group: *C. bupresticida* Duf.)

♂♂ ♀♀: Jericho 5.IV, Jerusalem 25.V–15.VII, Dir Yasin 12.VII–7.VIII, Ramat Hasharon 19.VII, Kfar Ata 8.VII, Nahariya 6–8.V (leg. Verhoeff), Tiberias 10.V, Rosh Pina 9.V, Gvulot 30.V, Revivim 12.V, Kfar Yeroham 12.VI–5.VII.

The yellow markings are on the average more developed than in the specimens of Western Europe, but less than in those of North Africa.

Distribution: S. Europe, N. Africa, W. and Central Asia. FE: Med/IT.

\* *Cerceris tricolorata* Spin. (Group: *C. bupresticida* Duf.)

♂♂ ♀♀: Jericho 22.VIII, Wadi Kelt 5.IV, 15 km east of Gaza 10.VI, Revivim 12.V–15.VIII, Kfar Yeroham 20.V–5.VII, Ein Gedi 1–16.V.

In these specimens, we find the same variation in the striation of the dorsal area of the propodeum which we have already noted. The ♀♀ have the propodeum (except sometimes the dorsal area) and the 1st abdominal segment red and the thorax generally black. The ♂♂ have the propodeum and sometimes also the 1st tergite black, some ♂♂ have the clypeus partly dark.

Distribution: Egypt, Sahara, Eretz Israel. FE: SS.

\* *Cerceris eugenia* Schlett. (Group: *C. bupresticida* Duf.)

♂♂ ♀♀: Gvulot 30.V, Beersheba 18.V (leg. Verhoeff), Revivim 13.VI, Kfar Yeroham 30.V.

Distribution: Egypt, Sahara, Israel (Negev), Central Asia. FE: SS.

\* *Cerceris alboatra* Walk. (Group: *C. alboatra* Walk.)

♂♂ ♀♀: Ein Gedi 1–16.V.

These ♂♂ have already been described.

Distribution: Sinai, Israel (Dead Sea region). FE: SS.



*Cerceris bicincta leucozonica* Schlett. (Group: *C. bicincta* Kl.)

1 ♀: Jerusalem 18.V.

*Cerceris rubida pumilio* Giner (Group: *C. rubida* Jur.)

♂♂, ♀♀: Jericho 12.X, Jerusalem 11.VI–IX, Ramleh 24.VI, Binyamina 5.VIII, Laifa, (Bat Gallim) 27.VII, Ras el Nakura 9.VII, Tiberias 3.IX, Dardara 3.VII, Deganya 5.IX (leg. Wahrman), Beeri 1.VI, Gat 10.VIII, Ruhama 27.VIII, Beersheba 14.VI, Nevivim 15.VIII.

We can consider that *pumilio* Giner, described from Cyprus, is a subspecies of *rubida* Jur., characterised by the more extensive yellow markings, the stronger punctuation, the slightly broader clypeus of the ♀; these characters show some variation. The Israel specimens have been identified as *pumilio* because they are more similar to those of Cyprus than to those of the typical race. Some of them are even more spotted with yellow than those of Cyprus, but others are slightly less so.

Distribution (for the species): S. Europe, W. and Central Asia. FE: Med/IT.

*Cerceris arenaria* L. (Group: *C. arenaria* L.)

♂♂, ♀♀: Binyamina 20.IV, 15.XI, Nahariya 7.V (Verhoeff), Ras el Nakura 13.V, Daphne 3.X.

The yellow markings are well developed; segments 2–4 of the funiculus are entirely reddish; the femora of the ♀ are entirely light. The punctuation of the tergites is somewhat denser than in individuals of Central Europe; the lamella of the clypeus of the ♀ is truncate or slightly arched in front.

Distribution: Europe, N. W. Africa, W. Asia. FE: ES/Med.

*Cerceris rutila mavromoustakisi* Giner (Group: *C. arenaria* L.) (= *C. quadricincta* Janz. in Bodenheimer 1937).

♂♂, ♀♀: Jerusalem 6.II–6.V, 9.X–4.XI, Ein Karim 5.XI, Beerot Yitzhak 25.V, Hulda 23.III, Pardes Hanna 17.III, Binyamina 12.IV, 15.XI–1.XII, Afule 28.III, Deganya (leg. Palmoni).

As already noted, this form, described as a distinct species on the basis of specimens of Cyprus, is no doubt only a subspecies of *rutila* Spin. from Egypt. The general morphology is the same. We cannot confirm the differences noted by Giner Mari in the pubescence and in the pygidial area between *mavromoustakisi* and *lindenii* Lep., another race of *rutila*. The subspecies is clearly distinguished from the typical race by its golden yellow markings and the denser punctuation of the tergites.

Distribution (for the species): N. Africa, Cyprus, W. Asia. FE: Med/SS.

*Cerceris ferrerii* Lind. (Group: *C. arenaria* L.)

♂, ♀♀: Binyamina 20.IV, Beisan 24.X.

The ♀ has in common with the specimens of Cyprus the relatively strong and dense punctuation of the tergites and the relatively small teeth on the inner edge of the

mandibles; the differences lie in the lamina of the clypeus, which is shorter and broader, becoming distinctly broader from the base to the apex.

Distribution: S. Europe, N. W. Africa, W. Asia. FE: Med.

\* *Cerceris specularis* Costa (Group: *C. specularis* Costa)

♂♂, ♀: Jericho 3.IV, Jericho (Mus. Munich), Jerusalem 12–14.V (leg. Verhoeff).

The dorsal face of the abdomen is more densely punctate than in the specimens of Western Europe, therefore the last tergites are less shiny. The markings are evidently yellow and more developed. In the ♀, the lateral lobes of the clypeus are yellow; the bands of the tergites are broader; a continuous one is present on the 5th tergite; the fore and middle femora show large yellow spots, reaching almost to the base. In the ♂♂ too, the abdominal bands are broader and the legs lighter. Similar specimens are to be found in Cyprus. It does not seem to be the f. *punctosa* Schlett., of which its describer simply says that it has a very strong punctuation, without giving its origin precisely.

Distribution: S. Europe, W. Asia: FE: Med.

\* *Cerceris chromatica* Schlett. (Group: *C. chromatica* Schlett.)

1 ♂: Wadi Fukra VIII.

Distribution: Egypt, Sahara, Israel (Negev). FE: SS.

\* *Cerceris pharaonum* Kohl (Group: *C. abdominalis* F.)

♂♂, ♀♀: Bat Yam 10.V–12.VI, Holon 3.V.

The clypeus of the ♀ is similar to that of the individuals from Egypt; the punctuation is denser, the angles of the collar somewhat less acute. The yellow markings are poorly developed on the head and the thorax; the abdomen of the ♀ is ferruginous.

Distribution: Egypt, Israel. FE: SS.

\* *Cerceris tenuivittata* Duf. (Group: *C. albofasciata* Rossi)

♂♂: Jerusalem 7.V, Binyamina 20.IV, Kfar Yeroham 1.V.

These ♂♂ show the typical morphological characters of the species: structure of the antennae and front basitarsus, pubescence. The markings are yellow and more developed than in the typical race; there are 2 spots on the collar, 2 large spots on the 1st tergite, broad bands on the next tergites; the yellow markings are also more developed on the legs. A ♀ examined from Syria was similar to these ♂♂ in the extension of the yellow designs; its wings were only slightly smoky.

Distribution: S. Europe, W. Asia. FE: Med.

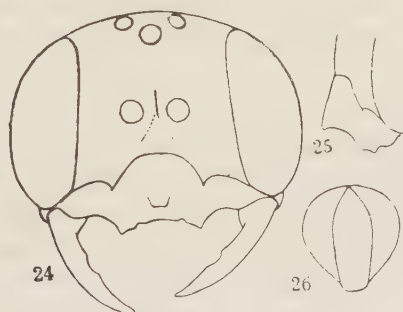
\* *Cerceris cheskesiana* Giner (Group: *C. cheskesiana* Giner) (Figures 24–26)

♂♂, ♀♀: Jerusalem 15.VII–26.VIII, Geva 5.IX, Gat 21.VIII.

The species was based on ♂♂ from Cyprus. I give herewith the *description of the* ♀: 9–10 mm. Mandibles scarcely toothed on the inner edge; median lobe of the



clypeus with its anterior border shallowly emarginate and limited on each side by a tooth (Figure 24); just above the anterior border, there is a fringe of long, not very dense, hair; the upper part of the median lobe with a not very long process narrowing to the tip, free on the sides (Figure 25); the whole median lobe is punctate; face relatively broad, the eyes diverging below; upper part of the face with a very dense punctation; behind the ocelli, the punctation is less dense, but the interspaces are smaller than the points; POL:OOL = 4:5. Collar not depressed in the middle, with rounded shoulders; prosternum with a very fine and spaced punctation; tegulae shining, impunctate; back of the thorax shiny; on the mesonotum, the interspaces are smaller than the punctation; on the scutellum, they are larger; mesopleurae without tubercle; propodeum with a very dense punctation; dorsal area shiny, with an obsolete median furrow, smooth in its greater part, but with some fine transversal striae; metasternum broad, with a declivous zone formed by 2 separated triangles connected by the tip in the ♂. As in the ♂, the first abdominal segment is very short; all the tergites with a dense punctation and an apical pit; the pygidial area narrow, pointed in front (Figure 26), with long fimbriae on its sides; it is densely punctate on its anterior 2/3; 6th sternite with 2 relatively narrow lobes, with a very small tooth on their outer edge. The basal lobe of the hind wing goes somewhat beyond the middle of the anal cell.



Figures 24 to 26

*Cerckeris cheskesiana* Giner ♀.

24. Head in front-view; 25. Clypeus in side-view; 26. Pygidial area

The designs, of a golden yellow, include: the mandibles, the clypeus, the usual markings of the face, a median stripe, widening at the end, where it reaches the anterior ocellus, 2 spots on the vertex, the temples, the collar, a large spot on the upper part of the mesopleurae and a smaller below, small spots on the meso- and metasternum, the scutellum, the postscutellum, large spots on the propodeum, the segments 1-5 of the abdomen, except triangular spots on the tergites, disposed as in the ♂; scapes yellow; funiculus reddish on the underside, dark on the upper side; legs yellow, becoming reddish on the tarsi; hind tibia with an apical brown spot at the inner face.

*Allotype* ♀: Jerusalem 15.VII in coll. de Beaumont; *Paratypes* ♀♀: Jerusalem 26.VIII.45, Geva 5.IX.43, Gat 21.VII.46 in coll. Bytinski-Salz.

It is not easy to classify this species in one of the groups that we established for the European and North African faunas. It can be placed provisionally in a special group, related to those of *albofasciata* and *specularis*. As in the latter, there are apical pits on all the tergites, the metasternum is broad, the basal lobe of the hind wing is long, the mandibles of the ♀ are scarcely toothed, the clypeus of the ♂ toothed in the middle of the anterior margin, the 6th sternite of the ♀ with scarcely toothed lobes. The species differs from those of the 2 groups by the last antennal segment of the ♂ being slightly curved, from those of the *albofasciata* group by the clypeus of the ♀ being provided with a process, from those of the *specularis* group by the eyes of the ♀ diverging below. The pygidial area, pointed in front as in *albofasciata*, is characteristic.

Distribution: Cyprus, Syria, Israel. FE: Eastmed.

\* *Cerceris chlorotica* Spin. (Group: *C. chlorotica* Spin.)

♂♂, ♀♀: Bat Yam 8.V-2.VI, Holon 3.V, Kfar Yeroham 5.VII.

In North Africa, this species is to be found in two forms showing a very different colouration: *ch. chlorotica* Spin., entirely or almost entirely yellow, and *ch. mateui* Giney having the head and the thorax black with reddish markings, the abdomen and the legs reddish. The slight morphological differences between these 2 forms did not seem to me more accentuated than those between specimens of *ch. chlorotica* from different localities.

The specimens from Bat Yam and from Holon show the colouration of *ch. mateui*. In the ♂♂, the reddish markings of the head and the thorax are often slightly more developed. The ♂ from Kfar Yeroham is in between the 2 forms; its head and thorax are black, with well-developed yellow markings, comprising the clypeus, the face, the temples, a large spot on the scutellum, the postscutellum, a large spot on the mesopleurae and 2 large spots on the sides of the propodeum and 2 small ones on its dorsal area; the abdomen and the legs are of a more reddish yellow colour than in the typical race.

The colouration of the *mateui* form appears thus to be found, linked by transitional forms, in different isolated zones (Spanish Sahara, Tunisia, Israel) of the geographical area of the species.

Distribution: Egypt, Sahara, Eretz Israel. FE: SS.

\* *Cerceris spinipectus* Sm. (Group: *C. capito* Lep.)

♂♂, ♀♀: Jericho 26.IV-27.VIII (Wadi Kelt VII-IX, 8♂♂, = *C. capito* Lep., Balthasar 1954), Jerusalem 24.VI-17.VIII, Ramat Gan 23.V-1.VI, Binyamina 7.VI, Tiberias 10.V-13.VI, Gat 26.VIII, Beerot Yitzhak 25.V, Beersheba 13.VI, Halutza 3.VI, Revivim 16.V, Kfar Yeroham 5.VII, Wadi Fukra 12.VI.

This species too is of a variable colouration according to the regions. In the typical race, described from Trebizonde, the head and the thorax are black, richly spotted



with yellow; the abdomen is yellow with the base of the tergites narrowly dark. In *sp. prisca* Schlett., from the Balkans and Cyprus, the yellow areas are less extensive; the tergites show basal black triangles. In *sp. spinolica* Schlett., from Egypt, the light markings, well developed, are reddish in the ♀ and of a more or less reddish yellow in the ♂.

We would have needed a more complete collection to define clearly the variation of this species in Eretz Israel. We can note, however, that the ♀♀ from Beersheba, Beerot Yitzhak and Gat have the light markings, more or less developed, but of a reddish colour; hence the specimens of the Negev can be considered as belonging to *sp. spinolica*. The other specimens show yellow markings, more or less extensive, and we may state that they belong to the typical race, with transitions to *sp. prisca*.

Distribution: N. E. Africa, W. and Central Asia, S. E. Europe. FE: ?IT/SS.

*Cerceris straminea hebraea* Beaum. subsp. nov. (Group: *C. capito* Lep.)

♂♂, ♀♀: Jericho 19.VI-9.VII (Jericho and Wadi Kelt VI-VII, 3 ♂♂, = *C. komarowi* Rad., Balthasar 1954), Beersheba 13.VIII, Revivim 12.VI, *id.* 16-19.V (leg. Verhoeff), Kfar Yeroham 1.VI.

These specimens from Eretz Israel are interesting because, owing to 2 important morphological characters, they represent an intermediate race between *st. straminea* Duf. from North Africa and *komarowi* Rad. from Central Asia. The latter, of which we examined a pair identified by Shestakov, must then be logically considered as a subspecies of *straminea*.

On the clypeus of the ♀ of *st. straminea* (figured by Mochi, under the name of *komarowi*), we notice 2 little tubercles, much nearer to one another than to the lateral margins of the median lobe; they form a double summit of a kind of pyramid. On the clypeus of *st. komarowi* ♀ (figured in a less precise way by Schletterer), the 2 tubercles are much more developed, farther from one another than from the lateral margins of the median lobe. In *st. hebraea* ♀, the clypeus is completely intermediate, with the 2 tubercles, showing an intermediate development, nearly equally distant from one another and from the lateral margin of the median lobe. In the ♂ of *st. straminea*, the basal coriaceous part of the 5th sternite shows a strongly excised margin (character figured by Mochi and by Giner Mari); in *st. komarowi*, this excision is hardly indicated; it is intermediate in *st. hebraea*.

The coloration of *st. hebraea* is darker than in the individuals of the 2 other races that I have examined. The greater part of the vertex and occiput, a part of the prothorax, the mesonotum, the mesopleurae, the dorsal area and the middle of the posterior face of the propodeum are black.

Type ♀, Beersheba 13.VII, and allotype ♂, Revivim 12.VI, in coll. de Beaumont. Paratypes in coll. Bytinski-Salz and Verhoeff.

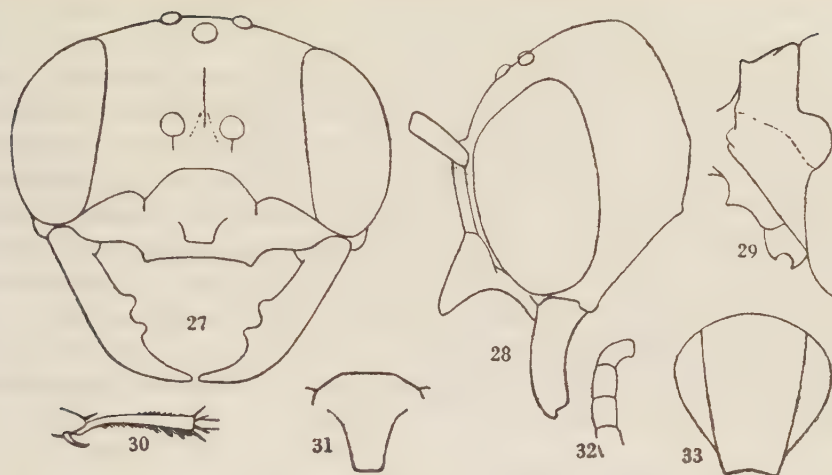
Distribution (for the species); Egypt, Sahara, W. and Central Asia. FE: SS/IT.

\* *Cerceris armata* Beaum. spec. nov. (Group: *C. capito* Lep.) (Figures 27–33)

♂♂ ♀♀: Herzlia Dunes 27.VII, 1.IX, 2 ♀; Tel Aviv near Reading, 16.VIII.54, 1 ♂.

♀. 14 mm. Mandibles with 2 strong teeth on the inner edge (Figure 27); median lobe of the clypeus with the anterior margin shallowly emarginate; a fringe of hairs is seen just above the anterior margin; upper part of the median lobe with a well-developed process, narrowing to the tip, where it is truncated (Figure 31); its underside is smooth and shining, its upper side punctate; the face is broad, with the eyes distinctly diverging below; POL:OOL = 5:6; in front of the ocelli, the punctation is very dense; on the sides of the vertex, the punctation is dense also, but behind the ocelli and on their side, there are some shiny interspaces larger than the points; temples with a dense punctation; underside of the head smooth and shiny, with some very wide-spaced small points; in side-view, the inferior face of the head is somewhat angulated behind (Figure 28). The collar, very densely punctated, shows a distinct depression in the middle; its shoulders are protruding, but rounded; the vertical keel, on the sides of the prothorax, is well developed, and its upper end is extended in a small lamina; prosternum half dull, with a fine and wide-spaced punctation, showing on each side a distinct acute tubercle, very evident in side-view (see Figure 29); tegulae dull, impunctate; back of the thorax dull, with a very dense micropunctation and larger points; on the disc of the mesonotum, and chiefly on the scutellum, the interspaces are larger than the punctation; mesopleurae with a very distinct acute tubercle in their lower part; propodeum with a very dense punctation; its dorsal area is quite dull, very finely coriaceous, with a fine median furrow and, on the sides, some very indistinct fine striae. The 1st tergite short and broad; all the tergites with an apical pit; their punctation very dense on the former, slightly more wide-spaced on the latter; pygidial area with the base broad, the sides converging behind, the hind border emarginate (Figure 33); its surface quite dull, irregularly and finely reticulate, without punctation; sternites shiny, with a fine and wide-spaced punctation: the 6th with 2 lobes, widened at the end part and with a strong tooth on their lateral margin. The 2nd segment of the funiculus is somewhat more, the 3rd somewhat less than twice as long as broad. The basal cell of the hind wing reaches up to two-thirds of the anal cell.

The light designs, of a golden yellow, becoming reddish in some parts, are very developed, including the mandibles, the clypeus, the usual markings of the face, 2 spots on the vertex, the temples and the underside of the head, 2 spots on the collar and other spots on the prothorax, the anterior angles of the mesonotum and 2 discal stripes on it, the scutellum, the postscutellum, 2 superimposed spots on the mesopleurae, spots on the meso- and metasternum, the propodeum (except a part of the dorsal area and the middle of the posterior face), the abdomen (except very narrow basal bands). Scape yellow; funiculus reddish, darkened on the upper side of the last segments; legs entirely yellow. Wings hyaline, with an apical smoky spot after the radial cell.



Figures 27 to 33

*Cerceris armata* Beaum. spec. nov.

27. Head of ♀ in front-view; 28. *id.* in side-view; 29. Prothorax of ♂ in side-view; 30. Middle basitarsus of ♂; 31. Clypeal process of ♀ in dorsal view; 32. Antenna of ♂; 33. Pygidial area of ♀

♂. 13 mm. Face and clypeus shining, with a dense punctation; the median lobe of the clypeus, relatively convex, is not distinctly toothed, but slightly protruding in the middle of the anterior margin; face much narrower than in the ♀; its minimal width scarcely exceeds the length of the clypeus; POL:OOL = 4:3; head abruptly and sharply narrowed behind the eyes; the punctation is stronger than in the ♀; as in the latter, the underside of the head is shiny with very wide-spaced small points. Collar shiny, with the shoulders slightly more protrusive than in the ♀; the vertical keel, on the sides of the prothorax, ends in a projecting little lamina (Figure 29), more developed than in the ♀; prosternum shiny with a relatively dense punctation and the same tubercles as in the ♀ (Figure 29); back of the thorax shiny, with a relatively strong and irregular punctation, without interspaces larger than the points on the mesonotum; on the scutellum, the interspaces are much larger than the points; mesopleurae without tubercle; dorsal area of the propodeum shiny, transversally striate, boldly on the sides, finely in the middle. The punctation of the tergites is as dense as in the ♀; the pygidial area, broad at the base, becomes somewhat narrower in the end part; the shiny sternites show a dense, erected white pubescence. Segments 2 and 3 of the funiculus as in the ♀; the last segment is distinctly curved (Figure 32). Legs slightly spinose, relatively long and slender; the middle basitarsus, in side-view, is slightly bent at the base (Figure 30).

The anterior part of the head is yellow until the posterior ocelli, with 2 black spots above the antennal sockets; posterior part of the head black, with a yellow line along the posterior margin of the eyes. Thorax mostly yellow, with the following parts black: anterior part of the pronotum, the bottom of the median furrow of the collar, 3 stripes, uniting behind, on the mesonotum, the inferior part of the metapleurae,



the dorsal area of the propodeum and the middle of its posterior face. Abdomen and legs yellow; wings and antennae as in the ♀.

The species is to be placed in the group of *capito*, whose characters it presents, being specially related to *straminea* Duf. The 2 species have in common, *inter alia*, the shape of the head, the shape of the anterior margin of the clypeus, the mandibles of the ♀, the shape of the temples of the ♀ (the tooth small in *armata*, very well developed in *straminea*), the tubercles of the prosternum, the keels of the prothorax (more developed in *armata*), the last segments of the antennae of the ♂, the wings darkened at the apex. The process of the clypeus of the ♀ is much more developed in *armata*, but it is, in some groups, a very variable character. The ♂ is distinguished from that of *straminea* by the much less curved middle basitarsus.

Type ♀ and allotype ♂ in coll. Bytinski-Salz, paratype ♂ in coll. de Beaumont.

Distribution: Israel Coastal Dunes. FE: Endemic.

\* *Cerceris rufipes* F. (Group: *C. rufipes* F.)

♂♂, ♀♀: Kfar Yeroham 1-29.VI, Sde Boker 2.VI.

A strongly-marked geographical variation is to be seen in some morphological characters, as the form of the clypeal lamina of the ♀ and the punctuation. The colouring is also variable; in the typical race, the body is black, with whitish yellow markings; in the subsp. *morawitzi* Mocs., from Asia, the body is almost entirely reddish (♀) with the thorax somewhat darkened in some parts. It would be very interesting, with the aid of a large collection, proceeding from the complete area of distribution of the species, to study this variation and to set boundaries between subspecies. Here we will describe only the individuals of Israel that we examined.

The 2 ♂♂ from Kfar Yeroham are of a colouring very similar to those of the south of France or Spain; they have the light markings somewhat more developed, with 2 spots on the propodeum and 2 spots on the 1st tergite; the upper part of the antennae is scarcely darkened. The punctuation of the mesonotum and of the scutellum is somewhat less dense, that of the tergites somewhat stronger.

The 4 ♀♀ from Kfar Yeroham and Sde Boker are very different from those of Western Europe. The punctuation of the mesonotum (which is shiny) is less dense, with small points between the larger; the punctuation of the scutellum is much finer, that of the abdomen somewhat finer. The clypeal lamina is distinctly broader than long (much broader than in the ♀♀ from Cyprus); its lateral margins are parallel, on the whole, but somewhat emarginate; the apical margin is distinctly excised. The light markings are only yellow on the face, the clypeus and the temples; otherwise they are reddish; the vertex and the occiput are for the most part reddish, as are the 2 spots on the collar, the scutellum, the postscutellum and, in 2 specimens, a median spot on the mesonotum. The tergites 1-5 are reddish, the hind part of the former and the last ones more or less yellowish; the 4th and the 5th are more or less black in the middle. Legs reddish, those of the 1st pair in part yellowish.

Distribution: S. Europe, Israel (Negev), W. and Central Asia. FE: Med/IT.

*Cerceris solitaria* Dahlb. (Group: *C. rufipes* F.)

♂♂, ♀♀: Revivim 12.VI–15.VIII, Kfar Yeroham 23.V–1.VI, Ein Gedi 1.V.

*C. solitaria* is nearly related to *C. rufipes*, and it is interesting to note that they remain distinct in Kfar Yeroham, where their distributive areas overlap. *C. solitaria* may be distinguished by its more acute shoulders, the denser punctation of the head and thorax, the more thickened interantennal carina, the unbent front and middle basitarsus of the ♂ and the more acute last antennal joint of the ♂. In certain regions, for instance in Egypt, the colouring of the ♂♂ is unusually variable; the ♂♂ from the Negev show the same variation, and side by side we may find individuals with the abdomen almost entirely black and others with the abdomen almost entirely yellow. On the ♀♀, the reddish colour is more or less extensive on the head, the thorax and the first two abdominal segments.

Distribution: Sudan, Egypt, Sahara, Israel (Negev). FE: SS.

*Cerceris flavicornis* Brullé (Group: *C. flavicornis* Brullé)

♂♂: Jerusalem 9.V–9.VI.

Distribution: S. Europe, W. Asia. FE: Med.

*Cerceris berlandi* Giner *palaestina* Beaum. subsp. nov. (Group: *C. döderleini* Schulz)

♂♂, ♀♀: Jericho 25.III.41, Khan Hadrur 18.IV.43; Ein Gev 23.IV.43. Syria: Douma near Damascus 7.V.55 (leg. A. Mochi Jr.),

These specimens show all the principal characters of the species, as we described them: clypeus of the ♀, funiculus and sternites of the ♂, and sculpture. In the north-west of Africa, the species is represented by the typical race *berlandi* Giner, inhabiting Tunisia and Algeria, with the abdomen in great part ferruginous and the race *tingitana* Beaum., from Morocco, with a denser punctation and the abdomen black with yellow bands.

The sculpture of the Israeli specimens is similar to that of the typical race; it is, as is always the case, somewhat denser in the ♂ than in the ♀; in the latter, we can note, for instance, that on the mesonotum the interspaces are much larger than the points and that, on the scutellum, there is only a very wide-spaced punctation. Seen from above, the apex of the process of the clypeus is somewhat narrower than in the typical race, slightly excised at a very obtuse angle. The lateral carinae of the 6th sternite of the ♂ are somewhat less prominent.

The colouration is similar to that of the race of Morocco; the description is given elsewhere:

♀. Body black, with whitish designs, including a spot on each lobe of the clypeus, the colouring of the face till above the antennal sockets (frontal shield black), temporal spots, 2 spots on the collar, the greater part of the tegulae, sometimes 2 small spots on the scutellum, a band, sometimes interrupted, on the postscutellum, sometimes spots on the propodeum, moderately broad bands on tergites 1–5, the 1st largely interrupted, the following ones less and less interrupted, the last continuous; some-

times small spots on the sternites. Mandibles tricolored. Scape white on the underside; 1st segment of the funiculus black, the following ones reddish on the underside. Coxae, trochanters and femora black (or brown), the hind coxae and trochanters with small light spots; all the femora with a large apical yellow spot, those of the hind pair sometimes yellow on the whole underside; for and middle tibiae and tarsi yellow, the middle tibiae sometimes somewhat darkened behind; the hind tibiae darkened over the whole length of the inner face and a part of the outer face; hind tarsi more or less dark.

In the ♂, the markings are more or less yellow, more wide-spread than in the ♀; the greater part of the mandibles, the whole clypeus and the frontal shield are light; a band on the 6th tergite; light spots on the middle and hind coxae; trochanters and underside of the hind femora entirely light.

Holotype ♀ and allotype ♂, Syria (Douma), in coll. de Beaumont; paratypes in coll. Bytinski-Salz, Mochi and de Beaumont.

Distribution: N. W. Africa, Eretz Israel, Syria. FE: Med.

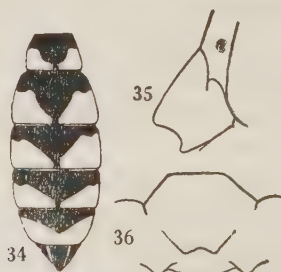
\* *Cerceris sinaitica* Beaum. (Group: *C. döderleini* Schulz)

♂: Beersheba 25.IV.

Distribution: Sinai, Israel (Negev). FE: Med. (SS).

\* *Cerceris fraterna* Beaum. sp. nov. (Group: *C. döderleini* Schulz) (Figures 34–36)  
Jerusalem 25.IV.1950, 1 ♀; Ein Gev 4.IV.1942, 1 ♀; Tiberias 12.V, 1 ♀.

♀. 12–14 mm. The species shows all the characters of the group, as we noted them. The anterior border of the median lobe of the clypeus is slightly arched between the 2 strong teeth which limit it (Figure 36); the process is somewhat less prominent than in *berlandi* (Figure 35); its upper face is densely punctate nearly to the tip, which is relatively broad and excised in a very obtuse angle; its under-face shows a fine longitudinal carina; the dense punctation of the face and clypeus is of the same strength as in *berlandi*; frontal shield of the same form as in *berlandi*, with a dense punctation; in front of the ocelli, the punctation is also dense with linear interspaces; behind the ocelli, the punctation is more wide-spaced and there is an impunctate zone,



Figures 34 to 36

*Cerceris fraterna* Beaum. spec. nov. ♀

34. Colouration of the abdomen; 35. Clypeus in side view; 36. Clypeus in front view



less developed than in *berlandi palaestina*. The mesonotum is shiny, with a denser punctation than in *berlandi palaestina*; on its sides, however, there are interspaces much larger than the points; its hind border is finely and longitudinally striate; the scutellum also is more densely punctate than in *berlandi*, the interspaces on its median part, however, being larger than the points; mesopleurae dull, somewhat more finely striolated than in *berlandi*, with an acute tubercle as in this species; propodeum transversely striolated, more irregularly than in *döderleini*, less distinctly punctate between the striae than in *berlandi*; punctation of the tergites and sternites somewhat denser than in this species; pygidial area triangular, as in the other species of the group.

Body black, with the following parts golden yellow: the mandibles, the clypeus (except the underside of the process), the face to above the antennal sockets (frontal shield black), relatively large temporal spots lengthened perpendicularly to the hind margin of the eyes, 2 oblique spots on the vertex behind the posterior ocelli, 2 spots on the collar and the greater part of the tegulae, 3 small spots on the scutellum and the postscutellum, broad more or less interrupted bands on the tergites 1-5 (Figure 34) and small spots on the posterior angles of the sternites. Underside of the scape yellow; 1st segment of the funiculus black, the following ones black on the upper side, reddish on the underside. Legs yellow and somewhat spotted reddishly, with all the coxae, the fore and middle trochanters and spots on the base of the fore and middle femora black. Wings subhyaline, with the apical border darker.

This ♀ is easily distinguished from those of *döderleini* and *sinaitica* Beaum. by the abdomen's lack of a ferruginous colour and the process of the clypeus being less prominent and not acute; it is nearer to the ♀ of *berlandi palaestina*, but is distinguished by its larger size, the denser punctation on all the parts of the body, the process of the clypeus being broader at the tip, the markings being a golden yellow and more developed (particularly the spots on the vertex), and the much lighter legs.

Type: ♀, Jerusalem, in coll. de Beaumont; paratypes: ♀♀ from Ein Gev and Tiberias in coll. Bytinski-Salz.

Distribution: Israel. FE: Endemic.

There will be some points to clarify concerning the West Mediterranean species of the *döderleini*-group. We saw one ♀, from Binyamina, distinct from the 2 preceding species, but we would not base a new species of this difficult group on a single specimen. On the other hand, *C. eucharis* Schlett., described from Syria, is probably the ♂ of one of these forms, but we cannot for the moment say which one. Finally, the systematic position of *euryanthe* Kohl, from the Caucasus, belonging also to this group, is to be fixed.

### *Nectanebus*

\* *Nectanebus fischeri* Spin.

♂♂, ♀♀: Beersheba 25.IV-5.V, Kfar Yeroham 1.V.

Distribution: Egypt, Sahara, Israel (Negev). FE: SS.

*Pseudoscolia*

Specimens of the genus *Pseudoscolia* Rad. (syn.: *Philoponus* Kohl, *Philoponidea* Pate, *Philoponides* G. Mari, *Acolpus* Vach.) are extremely rare in Israel, and I owe much to the kindness of Mr. P. M. V. Verhoeff for including some material collected by him. The genera *Philanthus* and *Pseudoscolia*, apart from their morphological differences, could also so far be distinguished by their general habitus, *Philanthus* being much larger and of stouter built, *Pseudoscolia* being much smaller and more delicate. But I am going to describe a true *Philanthus*: *P. theodori* By.-S., having the habitus of a *Pseudoscolia* and *Pseudoscolia angelae* Kohl, as described below, has the size and general appearance of a *Philanthus*. *Pseudoscolia* can be distinguished from *Philanthus* immediately by the undivided mesopleurae and by the presence of a well-delineated pygidial area, which characters approximate this genus to *Cerceris*.

\* *Pseudoscolia angelae* Kohl.

Kohl (1891) gives a short description of this species from a ♂ from Baghdad. He already notes, however, the asymmetrical fore tarsus and the slightly pectinate antennae. Dr. J. de Beaumont had the opportunity to compare the type of *P. angelae* Kohl with a ♂ from Israel and finds that they agree well in their morphological characters, though the yellow markings are slightly more extended in the Baghdad specimen. Below is a more detailed description of this little-known species and of the undescribed ♀.

A very large (12 mm) species of the *P. theryi*-group, black with continuous yellow abdominal bands, in the ♂ with asymmetrical 2nd tarsal joint and pectinate antennae.

♂ black, the following parts yellow: clypeus, 4th–7th antennal joint, a triangular spot between the clypeus and inner orbit, upper part of the pronotal collar, tegulae, postscutellum. Abdominal tergites with apical bands, that on the 1st and 4th segment with parallel borders, on the 2nd and 3rd constricted in the middle, on the 5th and 6th sinuose. Sternites 2–5 with more narrow bands, those on segments 2–4 medially interrupted, Legs ferruginous, coxae, trochanters and upper sides of the fore and middle femora black.

Head (Figure 37a) slightly broader than long (19:16), eyes convex, strongly converging towards the vertex. Maximal: minimal width of the face 25:17. Ocelli in an obtuse triangle. POL:OOL = 14:9 from the edge or 23:12 from the centre of the ocelli. Central part of the clypeus slightly elevate, lucid, with scattered medium-sized points, lateral parts flat, densely and finely punctate. Edge of the clypeus protruding into a black horizontal plate with 4 protruding teeth, the distance between the 2 medial teeth smaller than between the median and lateral teeth. Edge fringed with light bristles which are slightly longer than the teeth, but no typical barbs present. Face lucid, with fine and dense punctuation, covered by white tomentum up to the anterior ocellus. Vertex and occiput dull, with slightly coarser punctuation. Antennae (Figure 37b) broad and short, joints broader than long, the 10–12th segment pectinate,

the apical one almost twice as long as broad, slightly curved and truncate at the apex, laterally compressed.



Figure 37

*Pseudoscobia angelae* Kohl ♂

a-head, b-antenna, c-fore leg, d-pygidial area, e-7th sternite, f-area dorsalis of the propodeum, g-distal part of the middle metatarsus

Pronotum more narrow than the head, collare straight with rounded corners. Posterior decline very steep, anterior less steep, edge rounded; on the anterior face 2 small lateral tubercles extending downwards into a short crest which gives the collare a rectangular aspect when seen from above. Integument of the collare lucid with scattered points, sides and base of the pronotum densely punctate. Upper side of the mesothorax lucid with scattered points, those on the scutum and scutellum smaller and more dense on the sides, postscutellum more evenly and more finely punctate. Epipleurae very densely and finely, almost rugose punctate.

Area dorsalis of the propodeum semi-circular, finely longitudinally striate, the striae in the centre forming an elongate ellipse (Figure 37c); apical part very finely and densely punctate, sides finely striate. Abdominal tergites almost matt, finely, not too densely punctate from the 4th segment on, on the apical part an increasing number of coarse points; 7th tergite (Figure 37d) rounded triangular, micropunctate, pygidial area distinctly bordered by lateral crests and the surface of the pygidium with large piliferous points.

Apical border of the 1st and 2nd abdominal sternite straight, from the 3rd on more and more medially constricted, 6th sternite almost as long as broad, 7th sternite (Figure 37e) bottle-shaped, with apical incision and median keel. Sternites lucid, with micropunctuation, 1st segment with scattered small points, the following ones with more and more dense, coarse, apical punctuation up to the 5th sternite; 6th and 7th sternite with smooth base and finely, densely and almost rugosely punctate apex.

Legs with all femora inflated, especially the anterior ones; also the mid-tibiae inflated, the posterior slightly less. Front metatarsus (Figure 37c) curved inward and asym-



metrical, with a pronounced inner prolongation ending in the terminal spine; 2nd tarsal joint with an inner triangular tooth. Tarsal joints 3 and 4 very short, claw segment longer than segments 2 + 3 + 4; pulvillus well developed. Mid-metatarsus inflated at its tip, with a strong curved blunt inner spine (Figure 37g).

The whole body covered with white bristles, especially on the lower side of the head and occiput, sides and sternites of the thorax and the abdomen. On sternites 3-6 very conspicuous apical fringes of long white bristles, almost forming a ventral brush. 10.5-13 mm.

♂♂: Kfar Yeroham 8.V.1944, Beersheba 10-25.IV.

♀. *New description*: Extremely similar in colouration to the ♂; the only differences are: antennae completely black, the black proximal part of the 1st abdominal tergite with broad ferruginous border, and the sides of the black band on the 2nd tergite also ferruginous. Sternites 2-3 ferruginous, 4-6 black, all of them with narrow yellow lateral bands at the apical borders. Legs ferruginous, only the underside of the anterior and median femora yellow.

Sculpture of the integument and pilosity exactly as in the ♂.

Head slightly broader than long (20:17), width of the face 30:18, POL:OOL = 1:1. Edge of the clypeus protruding in a slightly curved plate, undulate in its lateral parts. Antennal joints from the 3rd on longer than broad, the 3rd 12:5, the following ones about 7:5, the apical joint 13:5, curved, broadly rounded at the tip and excavate below.

Pygidium of the 6th tergite elongate ellipsoidal, distinctly bordered by fine longitudinal micropunctuation and proximal with a few piliferous points; 6th sternite triangular with rounded tip, shagreened, the tip lucid and with a few piliferous points.

Femora dilated as in the ♂. Anterior metatarsus straight with pecten of 6 short lateral and 2 apical bristles and inner brush; tarsal joints symmetrical, the 2nd as long as the 3rd and 4th together, claw segment as long as joints 2 + 3 + 4.

11-12.5 mm.

Allotype: ♀, Kfar Yeroham 8.V.42; Paratypes: ♀♀, Kfar Yeroham 1.V, Beersheba 5-25.V.

Distribution: Iraq, Israel (Negev). FE: SS.

\* *Pseudoscolia dewitzi* Kohl

1 ♂: Revivim 16-19.V.51 (leg. Verhoeff).

Distribution: Saharian parts of Morocco, Algiers, Tunis, Egypt, Israel (Negev). FE: SS.

\* *Pseudoscolia berlandi* Beaum. (*Philanthus ferrugineus* Rad. var. in Bodenheimer 1937)

♂, ♀♀: Revivim 16-21.V (leg. Verhoeff and By.-S.), Gvulot 12.V.

Dr. de Beaumont writes to me: "The specimens from the Negev differ from those from Biskra by the more wide-spaced punctuation of the tergites in the ♀ and the more dense punctuation of the mesopleurae in the ♂ agrees well with the short description

the ♂ which Mochi (1939) doubted whether to include into *P. sinaitica* Mochi or *P. soikae* Mochi."

Distribution: S. Algeria, Egypt, Israel (Negev), FE: SS.

*Pseudoscolia sinaitica* Mochi

1 ♀: Beersheba 15.V. Agrees well with the description given by Mochi (1939).

The undescribed ♂ follows:

♂: **New description:** Colouration similar to the ♀: black, with the following parts yellow: mandibles except infusate tip, clypeus, sides of the collare of the pronotum, medially divided by black (Figure 38g), calli humerali, tegulae, postscutellum, abdominal bands. Those on tergite 1 paramedially interrupted and then laterally enlarged again, those on tergites 2-5 only paramedially constricted; ground colour of tergites 1-2 reddish brown, of tergites 3-7 dark brown; all sternites dark brown. Legs: coxae, trochanters and femora blackish brown, underside of anterior femora and distal parts of middle and hind femora yellow; tibiae and tarsi yellow ferruginous.

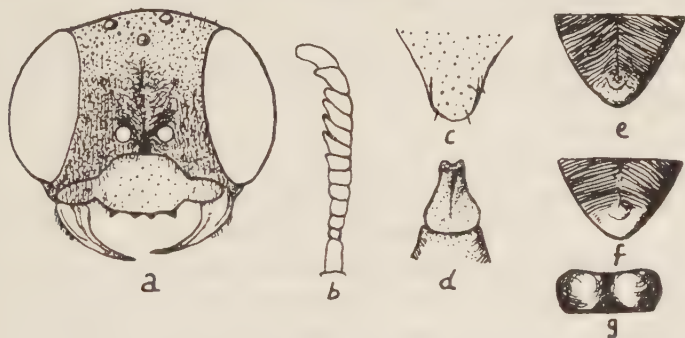


Figure 38

*Pseudoscolia sinaitica* Mochi ♂

a - head, b - antenna, c - 7th tergite, d - 7th sternite, e - area dorsalis, f - ♀, area dorsalis, g - collare of the pronotum

Head (Figure 38a) slightly broader than long (6:5); eyes slightly converging toward the occiput, width of the frons 9:7, POL:OOL 6:5.

Clypeus lucid with scattered points, edge with 4 teeth, the distance between the median teeth smaller than between the median and lateral teeth. Bards of the lateral sides of the clypeus silky white, slightly longer than the teeth. Frons with interantennal ridge, strongly and densely punctate; vertex lucid, with a few large and deep points. Face covered with silvery pubescence.

Antennae (Figure 38b) rather short, most joints broader than long, joints 9-11 serrate, 12 flat, curved, 1-1/2 times as long as the 11th.

Collare of the pronotum (Figure 38g) slightly higher than the disc of the mesonotum, even broad in profile, edges rounded, anterior decline steep. Seen from in front with rounded edges and slightly incavate middle, lucid, smooth, the sides indistinctly

striate. Mesonotum lucid, rather sparingly punctate. Postscutellum divided in the middle. Area cordata of the propodeum (Figure 38e) similar to that of the ♀ (Figure 38f), rounded triangular with shallow median groove, striate, only the tip smooth punctate, covered with discrete white pilosity. In the ♀ the tip is completely lucid.

Abdominal tergites lucid, those of segments 1 and 2 more sparingly and coarsely punctate, of segments 3–5 more densely and finely punctate. Tergite 7 (Figure 38c) triangular with rounded tip, pygidial area ill-defined with microreticulation and a few (piliferous) points. Sternites lucid, with coarse punctation which increases towards the posterior segments, sternite 7 (Figure 38d) elongate, tip bi-lobed.

Legs without special distinction, the anterior claw segment 1–1/2 times as long as the 4th tarsal joint. Length 6.5 mm.

Allotype: ♂ Kfar Yeroham 8.V.48.

Distribution: Sinai, Israel (Negev). FE: endemic (SS).

I attribute this ♂ to the ♀ of *P. sinaitica* Mochi because of the conformity of the collar and the similarity of the area cordata. All the other *Pseudoscolia* species of which the ♂♂ are unknown, i.e. *P. pharaonum* Kohl, *P. efflatouni* Mochi, *P. spinulicollis* Mochi, and *P. soikae* Mochi, have quite different shapes of the collar and the propodeum in the ♀♀.

### *Philanthus*

#### Subgen. *Philanthinus* de Beaumont

De Beaumont (1949) has erected for the new species *P. integer* from Algiers and Morocco the new subgenus *Philanthinus*, which in a certain way connects the genera *Philanthus* and *Pseudoscolia*. The interior border of the eyes is simply concave and slightly reniform, but without the distinct incision of *Philanthus s. str.*, in this way approximating the oval eye of *Pseudoscolia*. But it differs from the latter genus by the much lower collar of the pronotum, the absence of a distinct pygidial area and the presence of a mesopleural suture, characters which are also present in *Philanthus s. str.*

Of the subgenus *Philanthinus*, two species occur in Eretz Israel; a population of the subgenotype *P. integer* Beaum. and a new species *P. theodori*, which will be described below.

#### \* *Philanthus (Philanthinus) integer* Beaum.

♂, ♀: Ein Gedi 1.V.

The 2 specimens agree in almost all morphological characters, such as form of the clypeus, antennae, proportions of the head, form of the ocellar triangle, shape of the abdomen and form of the last segment, with paratypes of *P. integer* from the type locality, Tadjerouna, Algeria. The differences below probably are due to individual variability (usually large in the genus *Philanthus*) and in my opinion are not sufficient to warrant the establishment of a new subspecies.



♂ 6.4 mm. ♀ 7.2 mm. ♂ Vertex with slightly denser punctation, ♀ with slightly less dense punctation; ♀ mesonotum with distinct microreticulation, therefore more matt than the entirely lucid mesonotum in the type population; ♂ abdomen with slightly more reduced yellow bands, on tergite 1 narrowly interrupted in the middle, on tergite 2 notched, on the following tergites as in the type; ♀ abdomen with all the bands interrupted in the middle, the lateral spots on the brown 1st tergite larger, the bands on tergites 2 and 3 not notched laterally as in the type, but with anterior and posterior borders parallel.

Distribution: Morocco, Algeria, Israel (Negev). FE: SS.

*Philanthus (Philanthinus) theodori* By.-S. spec. nov. (Figure 39)

A small species of the habitus of *Pseudoscolia* but with the morphological characters of the subgenus *Philanthinus* de Beaum.; abdomen yellow with ferruginous bands.

♂: Head (Figures 39a and c) completely black, except for the clypeus, which is pale yellow; clypeal barbs ivory white; 1st and 2nd antennal joints deeper yellow. Mesonotum black, except for a transverse band on the collare, broadened at the sides. Thorax black except for a yellow spot inside the tegulae, scutellum and postscutellum; tegulae, calli humeri and a spot on the mesopleurae ivory. Wings hyaline, venation pale yellow, legs yellow except the femora, which are partly ferruginous.

Abdomen pale yellow with ferruginous bands, basal third of the first tergite ferruginous, tergites 6-7 indistinctly mottled; 1st sternite entirely ferruginous, 5 with constricted yellow bands which are narrower than those on the tergites, 6th sternite yellow.

Face (Figure 39c) with silvery pubescence, underside of the head, sides of the thorax and propodeum, sterna, and posterior abdominal segments covered with erect long white hairs.

Head (Figure 39c) broader than long (8:7); clypeus trilobate and lucid, with a few spiniferous points, edge rounded and with a narrow, crenulate, only slightly protruding

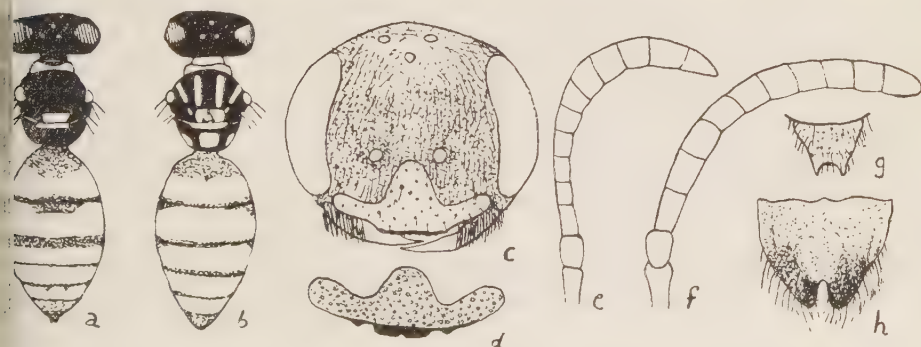


Figure 39

*Philanthus (Philanthinus) theodori* By.-S. spec. nov.

a, b-♀, c-♂ head, d-♀ clypeus, e-♂ antenna, f-♀ antenna, g-♂ 7th tergite, h-♀ 6th sternite

median part. Barbs present only on the outer quarter of the edge, about 1-1/4 times as long as the mandibles are broad. Genae long, as long as the mandibles are broad at the base. Eyes concave, ocellar triangle obtuse, POL:OOL = 16:13. Face and vertex lucid, finely and densely punctate, the points on the vertex more distant. Occiput and underside of the head lucid with only a few points. Antennae (Figure 39e) slender club-shaped, joints as illustrated. Pronotum roundedly triangular, collare situated much lower than the scutum, in profile rounded and forming with the edge of the scutum an almost continuous descending line; propleurae densely micropunctate. Mesothorax broader than the prothorax (5.5:4) with 2 faint longitudinal paramedian furrows and indications of parapsidial furrows, lucid and almost impunctate; scutellum with 4 large piliferous points; mesopleurae finely and densely reticulate, the upper part micropunctate. Propodeum with a triangular, finely and densely punctate area cordata transversed by a thin longitudinal line, sides of the area dorsalis lucid and impunctate, their edge and the sides of the propodeum finely and densely punctate. Declining face lucid, with a triangular area terminating in a median groove.

Abdomen dull, micropunctate, the posterior segments with a few piliferous points on the sides and venter these points form more conspicuous apical bands on the segments; 7th tergite semicircularly excised, the lateral edges terminating in 2 acute points (Figure 39g); 7th sternite rounded. 6-7.5 mm.

♀: Colouration as in the ♂ but yellow designs more extended (Figure 39b). Clypeus and face as in the ♂; antennae with the scape, 2nd-5th flagellar joints yellow, remainder ferruginous. Pronotum and collare almost completely yellow, only with median infuscation at the base of the collare. Calli humerali, tegulae and 2 spots on the mesopleurae yellow. Mesonotum with 2 broad paramedian and 2 lateral bands, the latter converging towards the scutellum. Scutellum and postscutellum completely yellow, the first with a triangular ferruginous infuscation. A large quadrangular spot on the area dorsalis of the propodeum and large spots on the lateral faces of the distal part of the declining face of the propodeum ferruginous.

Abdomen yellow with the following parts ferruginous: anterior half of the 1st tergite and narrow proximal bands on the following tergites. Lateral spots on the 2nd sternite black, other sternites mottled yellow, ferruginous and blackish. Legs ferruginous, black spots on the outer side and yellow stripes on the lower side of the fore and middle femora. Upper side of the middle and hind tibiae and tarsi yellow.

Pubescence and pilosity more developed than in the ♂. Besides those parts mentioned in the ♂, a conspicuous pilosity also on the edge of the clypeus, the dorsal side of the scutum, apical border of the scutellum, postscutellum and sides of the area dorsalis of the propodeum, as well as long dense silky oblique hairs on the mesopleurae and sterna. All legs, especially the fore femora and tibiae, with conspicuous long pilosity.

Head broader than long (3:2.6), clypeus trilobate (Figure 39d), edge with a brown lamella which is notched in the middle; lateral to the lamella 2 broad teeth which are shorter than the breadth of the lamella. Face of the clypeus lucid, with stronger

and denser punctation than in the ♂. Face and vertex dull, finely and densely punctate. Maxillae shorter than the base of the mandible, as broad as the base of the 3rd antennal segment. Eyes concave, ocellar triangle obtuse, POL:OOL = 4:3. Antennae (Figure 39f) 11-segmented, joints from the 4th on about equally broad.

Pronotum as in the ♂, with deep-lying collare, finely punctate, propleurae microreticulate. Mesonotum dull, finely punctate, scutellum and postscutellum with a few larger piliferous points; mesopleura finely microreticulate. Propodeum on its apical surface microreticulate, the sides distinctly transversely rugose. Area dorsalis distinct, represented only by a groove on the edge of the horizontal face and a deeper groove on the descending face, which is lucid and almost impunctate.

Abdominal tergites with micropunctation, that on the posterior segments still finer; sternite membranaceous, triangular, apex evenly rounded. Sternites lucid with scattered piliferous points, those on the lateral spots of the 2nd sternite more dense: 3rd sternite (Figure 44h) micropunctate and broadly rounded, with a median longitudinal impression; tip well-chitinised and deeply incised to form 2 lateral blunt teeth.

Forelegs with the femur thickened; metatarsus with tarsal comb consisting of 4 lateral spatulate bristles and 2 apical ones, which are as long as the following 3 tarsal joints together. Tarsal joints 2-4 with 2 bristles each, as long as those on the apex of the metatarsus. Middle-hind femora and tibiae strongly spinulose; all parts of the legs except the tarsus with long silky pilosity, which is about as long as the longest spines.

Wings as in the *Philanthinus*-type; in the hind wing the cubital nerve branches before the anal cell. 7.5 mm.

♂ Holotype and ♀ allotype: Jericho 26.V.1943; paratypes ♂♂, ♀: Beersheba 1943 (IV in coll. By.-S.); Syria: Hijjaneh near Damascus 11.VI.54, leg. A. Mochi (in coll. de Beaumont).

Distribution: Eretz Israel (Dead Sea region), Syria. FE: Endemic (SS).

All morphological characters of *P. theodori* sp. nov. agree with the definition as given by de Beaumont (1949) and above. The new species differs from *P. integer* by a much paler coloration, which on the abdomen of *P. integer* is prevalently black with yellow bands, different edge of the clypeus, less strong punctation, different form of the area dorsalis, the tarsus and the 6th sternite in the ♀. It is the 2nd species inhabiting the African-Arabian eremic belt.

Named in honour of Prof. O. Theodor, The Hebrew University of Jerusalem, eminent Israel dipterologist, to whom are owed many interesting insects (chiefly Hymenoptera) collected during recent years.

*Philanthus* (s. str.) *triangulum* F. ssp. *abdelkader* Lep.

♂♂, ♀♀: Jericho 11.VI-1.XII, Jerusalem 25.V-15.VII, Rehovot 28.X, Gat X, Tel Aviv 30.VII-25.X, Jaffa 15-20.V, Bat Yam 20.V-24.X, Holon 28.X, Ramat Gan 3-23.V, Bnei Brak 23.VI, Herzlia 1.X, Raanana 13.VI-26.X, Hadera 25.VIII.



Pardess Hanna 14.VI, Rosh Hanikra 12.IX, Maoz 3.XI, El Hamma 18-20.IV, Huleh 12.X, Amir 16.VIII; seems not to occur in the Negev.

In its extreme form the abdomen of the ♀ is completely yellow or ferruginous with apical infuscation, in the ♂ the black bands are much reduced or absent and often changed into ferruginous. Some ♂♂ cannot be distinguished from the nominal typical form. Of 45 specimens from Israel, 43 have the scutellum or the postscutellum and usually both yellow and a few also have yellow lateral spots on the propodeum, while in specimens from North Africa and Egypt these parts are in general black. The ♀♀ lurk around flowers, especially *Eryngium* in summer and *Tamarix* in autumn, to catch honey bees.

Distribution: Southern coast of the Mediterranean; transitional forms in S. Europe. FE: Medit.

\* *Phlanthus* (*s. str.*) *coronatus* F. ssp. *orientalis* By.-S. ssp. nov. (Figure 40c, d)

♂: Black, all yellow designs enlarged. Mandibles (Figure 40d) yellow with brown tips, barbs ferruginous. The following parts are yellow: clypeus and the whole face up to the anterior ocellus (in one specimen a black streak from the base of the antennae to the sinuosity of the eyes), except the dark inner orbits, usually 2 lateral spots on the hind part of the head, pronotum, calli humerali, tegulae, a triangular spot on the scutellum, postscutellum, legs except the coxae.

Broad yellow abdominal bands (Figure 40c) those on the 1st tergite never interrupted, on the 2nd not or only briefly interrupted, those on tergites 3-5 briefly inter-



Figure 40

*Phlanthus coronatus* F.

a, b--abdomen and head of ssp. *coronatus* F. c, d--abdomen and head of ssp. *orientalis* By.-S. ssp. nov.

ed. Yellow lateral spots on sternites 2–4 much larger than in *P. coronatus* *coronatus* F., in the holotype spots on sternite 2 largely confluent.

Morphologically the ♂♂ do not differ much from the nomotypical form. Pilosity slightly shorter, punctuation of the abdominal tergites finer and more dense than in specimens from Slovakia, but almost equal to those from S. France. 16–18 mm.

Unknown.

Holotype: ♂ Jerusalem 12–14.V.1951, leg. Verhoeff. Paratypes: ♂♂ Jerusalem 14.V, leg. Verhoeff; 25–31.V.1938 on *Teucrium polium*, leg. Kugler.

*P. coronatus* F. there therefore exists a series of increasing flavism from West to East.

*P. c. occidentalis* Beaum.: Portugal, Spain; *P. c. coronatus* F. (Figure 40a, b): Israel and S. Europe to Transylvania; *P. c. orientalis* By.-S.: Israel.

Distribution: Israel. FE: Endemic (Eastmed).

*Psyllanthus* (*s. str.*) *variegatus* Spin. (syn. *P. palestinensis* Balth., *P. variegatus* *coronatus* Duf. (Balthasar 1952)).

♂, ♀♀: Jericho 3.VI, leg. Houska (*P. v. ecoronatus* Balth.), Ramle 24.IV, Ramat Gan 4–23.V, Ramat Gan-Esser Tahanot VI.43, leg. Houska (type of *P. palestinensis* Balth.), Raanana 13.VI, Benyamina 7–29.V, Acre 27.VIII (leg. Fishelson), Urim 17–15.V, Revivim 16.–19.V (leg. Verhoeff), 12.VI, Kfar Yeroham 1.VI.

This species very variable as to colour (Figure 41a, b); if we take into consideration the original description of Spinola (1837, Ann. Soc. Ent. France 7, 484–485.): “abdomen ferrugineux, deux petits taches jaunes sur le dos du premier segment; deuxième, troisième, quatrième et cinquième fascies de jaune”, the majority of Israeli specimens belong to this form. Mochi (1939, Tav. I, Figure 2) figures a somewhat lighter form with reduced ferruginous and black designs. Also this form is present chiefly from the Negev. A number of ♀♀ from the Negev have the hind part of the head, scutellum and postscutellum ferruginous instead of yellow; rarely, the scutellum is black (Figure 41b). Several specimens have the abdomen almost entirely ferruginous, or blackish segmental borders, or in the posterior part the ferruginous bands replaced by black (Figure 41a). These would correspond to the description of *P. palestinensis* Balth., if clypeus and face were also of the same colour, but in about 10 specimens of *P. variegatus* Spin. these parts are never ferruginous, and it must be assumed that the description of the colouration of *P. palestinensis* Balth. was based on a discoloured (KCN) specimen.

The majority of the Israeli specimens (Figure 39d), however, differ from the Egyptian population as figured by Mochi (1939, Pl. III, Figures 39, 40) in the larger extension of the yellow face which extends in a continuous arc almost to the anterior ocellus. If the black antennal-orbital streak is present at all, it is thin. In this way the shape of the head approximates *ssp. ecoronatus* Duf. (cf. de Beaumont 1949, Figure 1) and the quotation of *P. c. ecoronatus* Duf. in Balthasar (1953) probably refers to this specimen. If we take into consideration, however, what de Beaumont (1951)

considers as the only morphological differential character—the sparser punctuation of the mesonotum in the ♂—all these specimens from Israel belong to *P. variegatus* Spin.

Distribution: Egypt, Eretz Israel. FE: Eastmed.

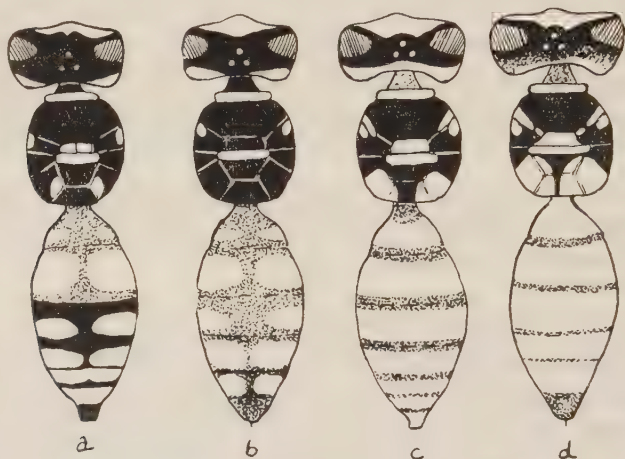


Figure 41

*Philanthus variegatus* Spin.

a, b: ssp. *variegatus* Spin. a—♂ with posterior black abdominal bands from Ramle. b—♀ from Urim. c, d—ssp. *nabataeus* By.-S. ssp. nov. c—♂; d—♀

\* *Philanthus* (*s. str.*) *variegatus* Spin. ssp. **nabataeus** By.-S. ssp. nov. (Figures 41c, d)

A new form of the *P. variegatus* Spin. group, characterised by the great extension of all ivory-white to pale yellow designs. Abdomen without black bands and the 1st tergite never completely or prevalently ferruginous. ♂: Head yellow, mandibles with dark brown tip; clypeal barbs not touching, brown. Antennae ivory white, ferruginous from the 5th joint on, distal part dark brown. A black band across the occiput (Figure 41c) extending well behind the posterior ocelli and descending along the inner orbits till the sinuosity. Underside yellow to ferruginous, mentum darker.

Thorax black, with the following parts yellow: collare of the pronotum, calli humerali, tegulae and lateral stripes on the scutum bordering them, scutellum and postscutellum. On the propodeum a triangular black spot, including the area cordata and a median line on its declivity. Pleurites, sternites and legs almost completely yellow.

Abdominal tergites yellow with narrow ferruginous basal and apical bands. Base of the 1st tergite often with a ferruginous spot. Sternites yellow, but the ferruginous bands broader and medially enlarged, the lateral groove on sternite 2 dark brownish black. Wings hyaline, veins and stigma ferruginous.

Colouristic variation: flavinistic. The black ocellar stripe may be reduced to a line along the posterior ocelli with an extension towards the anterior ocellus; pronotum completely yellow, scutum yellow with the exception of a broad



Median band (Wadi Fuqra), or black with 4 median and lateral yellow bands (Revivim). Propodeum yellow with a black median line through the area cordata only. Ferruginous abdominal bands very narrow.

Median area of the clypeus more lucid than in *P. v. variegatus* Spin., with fewer and smaller points, the interspaces between the points 2–3 times as large as the points themselves. The punctuation of the other parts of the head also less dense. Hind occiput shiny, almost without punctuation. Edge of the collare of the pronotum very sharp, slightly notched in the middle and lucid. Also the other parts of the thorax more lucid and less punctate than in *P. v. variegatus*. Sides of the propodeum with distinct aciculate striation and not lucid as in *P. walteri* Kohl. Upper part of the mesopleurae as roughly and densely punctate as the lower part.

Abdominal tergites lucid, the first with dense punctuation, the 2nd with less and the following ones only with scattered points; from the 3rd tergite on densely micro-punctate. In *P. variegatus* the punctuation is more dense and the microstructure already visible on the 2nd tergite. Abdominal sternites also more lucid and less densely punctate than in *P. variegatus*. Lateral grooves in the 2nd sternite finely shagreened with a few aciculate points; 7th sternite bi-lobed at the apex and genitalia, as in *P. variegatus*. 11–13.5 mm.

Holotype: ♂ Revivim 12.VI.46. Many paratypes: ♂♂ Revivim 11.V–13.VI (leg. Verhoeff and By.-S.), Wadi Fukra 12.VI.

♀ (Figure 41d): In colouration similar to the ♂, but the black bar on the vertex broader and always ferruginous behind. Antennae and legs more ferruginous. A ferruginous median band on the 1st and sometimes on the 2nd abdominal tergite, mostly indicated.

Colouristic variation: Flavistic: Only 1 specimen (Revivim) shows paramedian yellow stripes on the scutum and a thin black median stripe on the propodeum. Erythristic: Many specimens (Revivim, Kfar Yeroham) have the following yellow parts changed to ferruginous: occiput, cheeks and under-side of the head; scutellum, postscutellum and usually also the lateral parts of the propodeum, mesopleura and legs. Abdominal bands broader ferruginous with darker borders, ground colour of the 1st segment rarely ferruginous and with 2 lateral yellow spots, but these always larger and of a paler yellow colour than in *P. variegatus*.

Integument lucid; the punctuation of the whole body finer and less dense, especially on the scutum, which has only a few scattered points on the disc; 6th tergite slightly less notched than in *P. variegatus*. 12–14.5 mm.

Allotype: ♀ Revivim 13.VI.48; many paratypes: ♀♀ Revivim 16.V–13.VI (leg. Verhoeff and By.-S.), Kfar Yeroham 1.VI. The form is confined to the Central and Southern Negev. The most Southern locality of *P. variegatus* (Urim) lies 30 km NW. of Revivim.

Kohl (1891) described *Philanthus walteri* from 1 ♂ from Transcaspia, which is very nearly related to *P. variegatus*. According to the description, it may perhaps also be a form of *P. variegatus*, as the distinctive characters, such as the ratio of the distance

from the eyes on the occiput to the antennal joints and the hind metatarsus, as well as the punctation of the body, are variable characters, which differ considerably among different populations (see also de Beaumont 1949, p. 183 ff.). According to the description, the colouration of *P. walteri* seems to agree rather well with that of *P. variegatus* ssp. *nabataeus*, but some other characters, such as the presence of an aciculate striation on the sides of the propodeum, seem to differentiate both forms.

*P. v. nabataeus* differs from *P. v. variegatus* chiefly in its lighter colouration, all yellow designs being "ivory" to "straw yellow" (Ridgeways), while those of the nominate form are "light orange yellow". In addition it has a finer and less dense punctation. The other morphological differences seem to be of a minor degree. Erythristic ♀♀ sometimes approximate *P. v. variegatus* in the colour of the abdomen, but in this form the scutellum and postscutellum are never ferruginous.

Distribution: Israel (Negev). FE: Endemic (SS).

\* *Philanthus* (s. str.) *pallidus* Klug

♂♂: Revivim 11.V.

The specimens agree well with the darker forms as described by Kohl (1891) and Mochi (1939).

Distribution: North African deserts from Rio d'Oro to Egypt, Israel (Negev). FE: SS.

\* *Philanthus* (s. str.) *ammochrysus* Schulz ssp. **psammophilus** By.-S. ssp. nov. (Figure 42c, d).

A race with the black designs on the head and thorax more strongly developed and the abdomen ferruginous. Roughly speaking the ♂ approaches the colouration of the head and thorax of *P. a. ammochrysus* ♀, while the ♀ corresponds in colouration to the

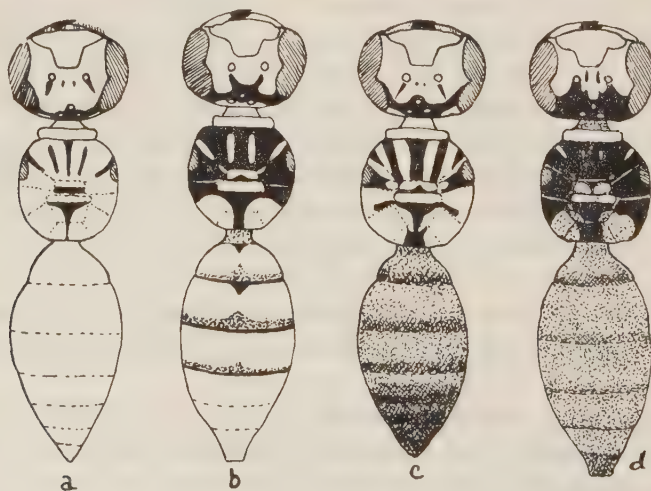


Figure 42

*Philanthus ammochrysus* Schulz

a, b: ssp. *ammochrysus* Schulz; a—♂ from Algiers; b—♀ from Morocco.  
c, d: ssp. **psammophilus** By.-S. ssp. nov. c—♂; d—♀ from Bat Yam

*P. minor* Kohl ♂. Through the kindness of Dr. J. de Beaumont we had an opportunity to compare the Israel specimens with a ♂ from Algeria (Figure 42a) and a ♀ from Morocco.

♂: Colour of the head similar to that of *P. ammochrysus* from N. Africa (v. de Beaumont 1949, Figure 5), but inner orbits and vertex with broader black areas, the latter with 2 small yellow dots, sometimes confluent, behind the posterior ocelli. Occiput with 2 yellow bands, underside of the head black. The antennal-ocular streaks mostly present, the interantennal streak only occasionally.

Thorax yellow, with the following parts black: a broad median band, two lateral and humeral stripes, posterior edge of the scutellum sometimes dividing this in the middle, bands towards the tegulae and lateral to the postscutellum; a triangular band across the area dorsalis broadened on the propodeal decline; sides of the thorax and sternites black.

Abdominal tergites ferruginous, the apical borders slightly darker; tip of the abdomen sometimes infusate. Sternites coloured like the tergites, but darker, apical borders broader; lateral spots of tergite 2 and median lines of tergites 1-3 blackish brown, sometimes all tergites infusate. Legs yellow, hind legs partly ferruginous. 10-14 mm.

Holotype: ♂ Bat Yam 10.V.45. Paratypes: many ♂♂ Bat Yam 8.V-15.VI, Holon 3.V.

♂: Colour of the head similar to that of *P. ammochrysus* ♀ (v. de Beaumont 1949, Figure 6), but vertex with broader black areas and the 2 converging interantennal streaks always present, sometimes reaching to the posterior border of the clypeus. Occiput with 2 narrow yellow streaks behind the eyes; underside of the head black.

Thorax black; yellow coloured are: the collare, sometimes divided in the middle, calli humerali, tegulae and small spots on the pleurae, sometimes 2 short lateral comma streaks on the scutum; scutellum always divided by black in the middle or entirely black. Postscutellum and 2 lateral spots on the propodeum always yellow or ferruginous. Sternites black. Abdomen and legs ferruginous as in the ♂. 10-13 mm. Allotype: ♀ Bat Yam 10.V.45. Paratypes: many ♀♀ Bat Yam 10-21.V, Holon 3.V.

The type population is confined to the Coastal dune belt, where the wasps visit flowers of *Polygonum equisetifolium*. In the loess steppe of the Negev (Gvulot 21-30.V, Revivim 12.V, Kfar Yeroham 11.IV) there occurs a lighter population with more developed yellow designs, for example, in the ♂ the scutum is yellow, the 4 longitudinal black stripes narrower, and in the ♀ the yellow scutal stripes are always well, developed. Abdomen also of a lighter ochreous colour. This population forms a transition race to the typical *P. ammochrysus*.

Distribution: *P. ammochrysus* Schulz: N. Africa from Morocco to Cyrenaica, apparently not recorded from Egypt. *P. a. psammophilus* By.-S.: Israel, coastal dunes; transition forms in the Negev. FE: Endemic (SS).



\* *Philanthus* (*s. str.*) *coarctatus* Spin. (Figure 43)

♂♂, ♀♀: Ramle 24.VI, Bnei Brak 28.VI, Ramat Gan 4–31.V, Tel Aviv 15.V, Jaffa 3–6.V, Ramat Hasharon 12.VII, Herzlia 17.V, Raanana 5–13.VI, Binyamina 5.VIII, Haifa 27.VII, Naharia 6.–8.V, Sa'ar 7.V, Rosh Hanikra 9.VII, Degania 15.IX (leg. Wahrman in coll. Verhoeff), Gat 10.VIII, Ruhama 27.VIII, Urim 13.V, Beersheba 4.VI, Revivim 16–19.V, Kfar Yeroham 15.V–15.VII, Maaleh Haakrabim 22.IV, Wadi Fukra 3.VII, Ein Gedi 8.IV–15.V, Kallirhoë (Transjordan) 7.VI, Jericho 9.VII–2.IX.

The species is extremely diverse in sculpture and variations. On the basis of the form of the 1st abdominal tergite, the majority of the southern specimens seem to correspond to the form *niloticus* Smith, which Mochi (1939) considers a distinct

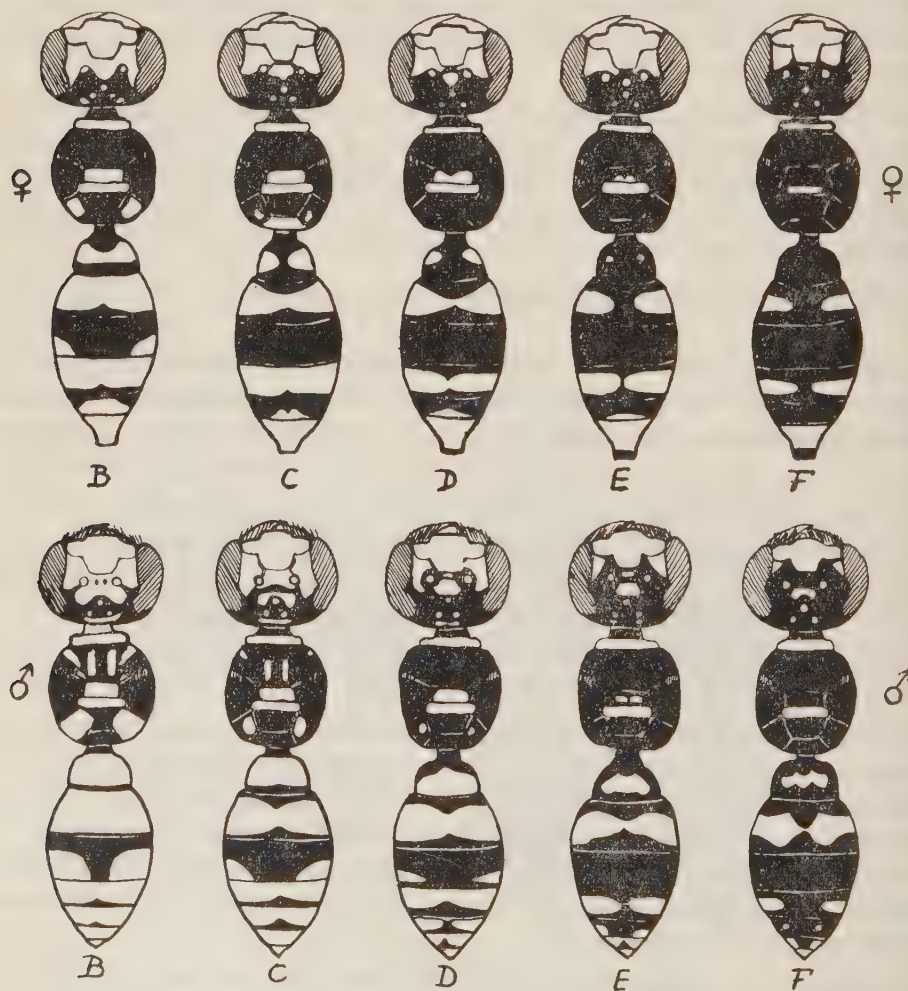


Figure 43

*Philanthus coarctatus* Spin. Designs of the different colour groups in the ♀ (above) and ♂ (below)

species. In most of the ♀♀, however, the 1st segment is ferruginous, which corresponds to *P. coarctatus* as described by Spinola (1837, Ann. Soc. Ent. France, 1, p. 487). De Beaumont is therefore probably right in considering *P. niloticus* as a synonym of *P. coarctatus* Spin.

A ferruginous 1st abdominal segment and corresponding femora are found in ♀♀ of the following localities: Rosh Hanikra 1 out of 6 ♀♀, Ramat Gan 1 (5), Revivim (7), Kfar Yeroham 8 (8), Ein Gedi 7 (7), Jericho 2(2). In regard to the distribution of yellow and black designs, we give here a tentative classification of ♂♂ and ♀♀ according to colour groups (Figure 42). Group A is reserved for specimens with even more reduced black designs, a form which is to be expected if more material becomes available. There are many intermediate specimens which must be classified in the nearest group. The correlation in the increase of black designs on the head, thorax and abdomen is in general close, but there are a small number of ♂♂ of the group F which still have 2 small spots on the scutellum and ♀♀ of the group F with a tiny yellow frontal spot. In general the ♀♀ of the same locality are about one colour group darker than the ♂♂, and the ♂♂ and ♀♀ of one region usually vary only 2-3 colour groups. A survey of 147 specimens gives the following distribution according to localities and colour groups (Table I):

TABLE I  
*Distribution of Philanthus coarctatus* Spin.

Geographical regions		Colour groups					Total
		B	C	D	E	F	
Jordan valley — Dead Sea	♂	8	7	2			17
to Wadi Fukra	♀	7	3				10
Negev	♂	2	4	12			18
	♀		1	5	14	2	19
Northern coastal plain	♂			8	2		10
to Jezreel Valley	♀				9		9
Southern coastal plain	♂			5	4	5	14
to Ashkelon	♀			10	7	6	23
Dunes of Bat Yam	♂			2	12	1	15
	♀				2	7	9
Total	♂	10	11	29	18	6	74
	♀	7	4	15	32	15	73
Total	♂ + ♀	17	15	44	50	21	147

Considering the population of Israel as a whole, the majority of the specimens belong to the intermediate colour groups D (♂♂) and E (♀♀). But if we consider the population of different areas, we are able to establish the following differences: the lightest population is that of the Jordan Valley and the Dead Sea region, varying from B to D, with a maximum at B: the Negev population also shows light specimens of group B, but the maximum lies in group D and E, only 2 ♀♀ specimens belonging

to the darkest group F. The population of the Northern Coastal plain down to Tel Aviv and the Valley of Jezreel is intermediate (groups D, E); the southern coast is similar, but already contains a certain number of specimens of the darkest group F. Finally, the darkest population is found in the coastal dunes around Tel Aviv with a maximum of the ♂♂ in group E and of the ♀♀ in group F; there are no more light specimens of group B and C and only 2 ♂♂ belong to group D. A similar case of nigristic variation in the dune belt has already been described in *Bembix dahlbomi* Hdl., where the light nomotypical form is found in the Negev and the nigristic ssp. *sabulosa* By.-S. in the dunes of Holon and Bat Yam. Though the populations of different areas undoubtedly differ, their variation is too great to establish taxonomically valid subspecies.

No specimens which could be attributed to the nearly related North African species *P. raptor* Lep. occur in my material.

Distribution: N. Africa to Israel. FE: Southmedit.

\* *Philanthus* (s. str.) *schulthessi* Maidl. ssp. **nigrinus** By.-S. ssp. nov. (Figure 44b)

*P. schulthessi* has been described by Maidl (1924) from Khartum (Sudan); recently de Beaumont (1956) reports specimens also from Tibesti and Mauritania, i.e. also from the Ethiopian-Palearctic border zone. The Israel specimens come from the Negev, which is known to harbour many species of Ethiopian origin (Bytinski-Saltz 1954). The Negev race is nigristic in comparison with the nomotypical race, of which we had the opportunity to examine 1 ♀ from Tibesti (Figure 44a). The differences in the colouration of this specimen are given in brackets.



Figure 44

*Philanthus schulthessi* Maidl.

a-ssp. *schulthessi* Maidl. ♀; b-ssp. **nigrinus** By.-S. ssp. nov. ♀

6.5–7 mm. Simulating in coloration small specimens of *P. variegatus* Spin., but structurally belonging to the *P. coarctatus* group.

♀: Black; on the head the following parts are ivory white: mandibles except the brown tip, clypeus and face up to a line connecting the incurving of the eyes,



where the median part above the antennal sockets is more yellow. A black antenno-orbital streak and 2 paramedian black lobes present in the paratype, lacking in the type. Vertex black (yellow band), outer orbits with a narrow yellow band in the paratype or two yellow spots in the type (broad yellow). Underside of the head with yellow spots lateral of the mentum (broad bands); 1-3 antennal joint ivory, the rest ferruginous, infusate above.

Mesonotum entirely black (2 broad yellow paramedian and lateral bands). Of yellow colour on the thorax: the collare of the pronotum, distal part of the scutellum (whole scutellum) and the whole postscutellum, calli humerali, a small dot distal to them, tegula and a small dot in front of them, lower part of the mesopleurae, almost the entire sterna and a spot on the side of the propodeum (much more extended). 1st and 2nd abdominal tergites ferruginous with 2 large well-separated lateral yellow spots (continuous yellow bands). Segments 3-5 black with yellow or ferruginous spots (yellow with narrow distal and apical bands). Tergites 5 and 6 with broad yellow uninterrupted bands (entirely yellow). Underside brownish infusate (yellow): 1st sternite almost completely ferruginous (2 ferruginous longitudinal stripes only), 2nd sternite with ferruginous basal band which is connected with the dark brown lateral spots (yellow except for the lateral spots). Sternites 3-5 with more and more reduced ferruginous basal bands (yellow), 6th sternite with ferruginous sides (yellow).

Legs yellow, femora ferruginous, fore and middle femora with yellow underside. Wings hyaline with brown veins (slightly infusate). Pilosity, consisting of long silky hair, little developed, more prominent on the frons, vertex, underside of the head, sides of the propodeum, sterna and legs.

Punctuation slightly stronger and more dense than in the present specimen of *s. schulthessi* from Tibesti, especially on the vertex, epipleurae and sides of the propodeum. The other morphological characters, especially the area cordata, agree with the nominal form.

Holotype: ♀ Revivim 12.V.45. Paratypes: ♀♀ Revivim 12-25.V.

Distribution: Israel (Negev). FE: Endemic (Ethiopian).

*Phlanthus (s. str.) venustus* Rossi

Only 2 ♀♀ from the most Northern coastal plain, Naharia 11.VI and Ras el Makura 18.V, which agree well in colouration and sculpture with specimens from France, Corsica and Syria.

Distribution: Northern Mediterranean areas up to Paris, S. E. Europe to S. Russia, Syria, Israel; absent in N. Africa. FE: Medit.







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